

From:

Jeff Theerman

To:

Bernie Rains, Bruce Litzsinger, Ed Cope, Randy ...

Date:

7/16/01 10:32AM

Subject:

Ash Disposal from Bissell Point

Here is a history of ash disposal from the Bissell Point site. This was based on what I was able to gleen from the files at the plant. It is my belief that while we apparently applied for and recieved a permit in 1983, we never used it. the ash in 1984 was moved by MSD employees to the Angelica site and then subsequently moved to the Prospect Hill Landfill.

The second attachment is a history of both Bissell and Lemay. Also, Paul Brackens used to have samples of ash stored in the Bissell Point Administration basement of all ash produced at Bissell Point during it's history. If we need to, we should be able to perform an analysis of the ash from the time period and determine if it is hazardous.

Jeff Theerman Assistant Director of Operations Metropolitan St. Louis Sewer District 314/768-6245

CC:

Roger Wieting

Metropolitan St. Louis Sewer District Incinerator Ash Disposal History

Fill Period	Basin	Disposal Site	Anna \/-1
I III I EIIOG	Dasiii	Dishosal Sife	Approx. Volume
Summer '99	Basin 1	Prospect Hill	70,000
Summer '99	Lemay	Prospect Hill	111,000
Spring '98	Basin 2	Prospect Hill ,	70,000
Spring '97	Basin 1	Prospect Hill	82,450
Spring '96	Basin 2	Prospect Hill	90,650
Fall '95	Angelica	Prospect Hill	89,250
Spring '95	Lemay	Prospect Hill	108,350
Spring '94	Basin 1	Prospect Hill	78,000
Fall '90	Basin 2	Prospect Hill	76,000
Spring '88	Basin 1	Prospect Hill	75,000
Summer '86	Basin 2	Prospect Hill	75,000
Winter '84	Basin 1	Angelica	71,000
Winter '82	Basin 2	Rockhill Quarry	70,000
Winter '80	Basin 1	Angelica	61,000
Summer '76	Basin 2	Stein Property	22,000
Spring '75	Basin 2	Stein Property	61,000

Note: All ash labeled Basin 1 or 2 and the Angelica stockpile originated at Bissell Point

Memo To: Bernie Rains

From: Jeff Theerman

Subject: History of Ash Removal From Bissell Point

Date: July 13, 1994

I have reviewed the files and have spoken to plant staff that was here at the origional startup. The following is a general synopsis of the various ash removal operations in Bissell Points history.

Fill Period	Basin	Disposal Site	Approx. Volume
Spring '94	Basin 1	Prospect Hill	78,000
Fall '90	Basin 2	Prospect Hill	76,000
Spring '88	Basin 1	Prospect Hill	75,000
Summer '86	Basin 2	Prospect Hill	75,000
Winter '84	Basin 1	Angelica	71,000
Winter '82	Basin 2	Rockhill Quarry	70,000
Winter '80	Basin 1	Angelica	61,000
Summer '76	Basin 2	Stein Property	22,000
Spring '75	Basin 2	Stein Property	61,000

Based on the best information I have, there is a total of 132,000 yds³ of ash on the Angelica Street site. This ash was placed on the site on two separate occasions as shown in the table.

cc: Roger Wieting

fac\ashhist

SIR

ENVIRONMENTAL EVALUATION OF INCINERATOR ASH STORED AT BISSELL POINT WWTP

BACKGROUND

- Ash moved to Angelica Street storage site twice (winter of 1980 and winter of 1984)
- Stored ash generated between 1977 and 1980
- Total ash volume = 132,000 cubic yards
- Area covered = 5 acres @ 16' depth
- Concern for quality of ash moved winter of 1980:

* - ash generated prior to District's approved pretreatment program

(August 1982; Ordinance #4786)

- ash could contain low level radioactivity from commercial and other mixed waste concerns

columbium - tantalum processing

REGULATORY ACTIVITY

- Hazardous waste criteria established for solid wastes (40 CFR Subpart C; effective September 1990) (TCLP)
- Documented cases where radioactive materials have been concentrated in sludge and incinerator ash (Cleveland, Ohio and Erwin, Tennessee)
- District Ordinance No. 8472 limited radioactive materials discharged from all users in a treatment area to one (1) curie per year (Article V, Section One, Paragraph A, Item 13; effective August, 1991)
- New NRC regulations no longer allow release of radioactive particulate matter to sewers (10 CFR 20.2003; effective January 1994)

DISTRICT ACTIVITY TO-DATE

- Preliminary heavy metal and radiological sampling of ash moved to Angelica site winter of 1984 indicated no compliance problem
- Request for Proposal to evaluate total ash pile sent to four firms in November, 1990
 - O'Brien & Gere
 - Teledyne
 - TMA/Eberline
 - Engineering-Science
- · Review committee selected TMA/Eberline for project
- Subsequent cost negotiations with TMA/Eberline not productive (cost exceeded MSD budget allotment)
- During cost negotiations with second committee selection Engineering-Science, project put on hold due to pending law suits and budget constraints (April, 1991)
- Proposed Ordinance No. 83-95 resurrects project for completion

Angelically

MEMO TO: Frank Kriz

FROM: John

John Koeper

DATE:

July 18, 1990

SUBJECT: Angelica Ash Pile

The ash pile on Angelica was tested in 1986 for radium-226 and found to be well below the level of concern for this type of radio-active material. Since the 1986 regulations have not changed, as of this writing, the ash on its existing site poses no threat. Unless we have an urgent need to move the ash pile, I along with Roger Wieting recommend that further testing and ultimate disposal of the ash pile be deferred to a future date when funds are available for lower priority needs.

mvf

c: Chuck Etwert
 Jim Byrne
 Bernie Rains
 Roger Wieting

ICC 115821 ILL. CC 9349MC-CR

PHONE 618-768-4411

P. O. BOX 305 ST. LIBORY, ILLINOIS 62282





METROPOLITAN ST. LOUIS SEWER DISTRICT

ATTN: KEN AMBARO 10 EAST RAND AVENUE ST. LOUIS, MO 63147-2913

DATE	INVOICE	UMBER	PAGE NUMBER
12/22/95	35	47	1
CUSTOMER NUMBER	***************************************	CODE	
19413			
OUR ORDER NUMBER	*******************************	YOUR ORD	ERNUMBER

RE: ASH HAULED FROM BISSEL POINT TREATMENT PLANT TO PROSPECT HILL LANDFILL. PRO RESS BILLIN; FOR DECEMBER 12-14, 1995.

CALCULATIONS

Approx.

5,666 cu. yds. ea.

3.5 sections

19,831 cu. yds.

x \$3.29

\$65,243.99

TOTAL DUE BEELMAN TRUCK CO......

SUBTRACT 20%. RETAINER (\$13,048.80)

TOTAL PAYMENT DUE . \$52,195.19

OK for payment

(12) 1-2-96

Beelman Truck Co.

PHONE 618-768-4411

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P. O. BOX 305 ST. LIBORY, ILLINOIS 62282





METROPOLITAN ST. LOUIS SEWER DISTRICT

ATTN: KEN AMBARO 10 EAST RAND AVENUE ST. LOUIS, MO 63147-2913

DATE	INVOICE	UMBER	PAGE NUMBER
12/14/95	354	10	1
CUSTOMER NUMBER	***************************************	CODE	·····
19413			
OUR ORDER NUMBER		YOUR ORD	ERNUMBER

RE: ASH HAULED FROM BISSEL POINT TREATMENT PLANT TO PROSPECT HILL LANDFILL. PROGRESS BILLING FOR DECEMBER 1, 1995 to DECEMBER 8, 1995.

CALCULATIONS

762 loads <u>x40.9</u> cu. yds. per ld.

31,165.8 cu. yds. x \$ 3.29

\$102,535.48

TOTAL DUE BERLMAN TRUCK CO.....\$102,535.48

SUBTRACT 20% RETAINER - \$20,507.10

TOTAL PAYMENT DUE = \$82,028.38

OK for payment

ICC 115821 ILL. CC 9349MC-CR Beelman Truck Co.

PHONE 618-768-4411

P. O. BOX 305 ST. LIBORY, ILLINOIS 62282





METROPOLITAN ST. LOUIS SEWER DISTRICT ATTN: KEN GAMBARO 10 EAST GRAND AVENUE ST. LOUIS, MO 63147-2913

DATE 11/30/95 CUSTOMER NUMBER	INVOICE N	2	PAGE NUMBER
19413		CODE	
OUR ORDER NUMBER		YOUR ORDE	RNUMBER

RE: ASH HAULED FROM BISSEL POINT TREATMENT PLANT TO PROSPECT HILL LANDFILL. PROGRESS BILLING OF FOUR (4) SECTIONS PER INSTRUCTIONS.

CALCULATIONS

Approx. 5,666 cu. yds. ea.

4 sections completed

22,664 cu. yds.

x \$3.29 per cu. yd.

\$74,564.56 \$ 500.00 mobilization

\$75,064.56 TOTAL DUE BEELMAN TRUCK CO. \checkmark

(-20% RETAINAGE ON CONFICTED WASE 14,912.91 # 15,012.91 Bid \$ 96-20

TOTAL PAYMENT DUE : \$ 60,\$51.65

3608

ICC 115821 ILL. CC 9349MC-CR Beelman Truck Co.

PHONE 618-768-4411

P. O. BOX 305 ST. LIBORY, ILLINOIS 62282





METROPOLITAN ST. LOUIS SEWER DISTRICT ATTN: JEFF THEERMAN 10 EAST GRAND AVENUE ST. LOUIS, MO 63147-2913

INVOICE	NUMBER	PAGE NUMBER
360	8	1
	CODE	
A A Marie Annie III de la Company de la Comp	YOUR ORD	ERNUMBER
	360	

Angelica Street Pile

DATE

DESCRIPTION OF CHARGES

TOTAL

\$75,949.20

02/19/96-02/29/96 657 loads @ 40 yds. ea. = 26,280 cy. yds.

@ \$2.89 per cy. yd.

SUBTRACT 20% RETAINCE (\$15, 189.84)

Total Payment Due \$60,769.36

ox for payment.

3/7/96

METROPOLITAN ST. LOUIS SEWER DISTRICT



July 17, 1986

Mr. Rod Melgard Eberline Instrument Corporation 7021 Pan American Highway, N.E. Albuquerque, New Mexico 87109

Dear Mr. Melgard:

As discussed with you on the telephone yesterday, we are requesting your firm to analyze six incinerator ash samples for Radium 226 by chemistry technique. These samples are being sent to you by United Parcel Service. The samples are designated as "Angelica Street Ash, Bissell Point STP" Nos. 1 through 6. We understand the cost of the chemistry analysis for Radium 226 is \$113.00 per sample. In billing us, refer to Purchase Order No. P9754W. Please forward your invoice and test results to Mr. Al Callier, Bissell Point STP, 10 E. Grand Avenue, St. Louis, Missouri 63147. I would also appreciate receiving a copy of the test results.

Thank you for your assistance with this request.

Sincerely,

Bernard A. Rains, P.E., Director

Environmental Compliance

Bernard Kains

BAR:kat

cc: Roger Wieting
Al Callier

Aarple in {30}

Mof 10 p 0 / f 'n SACKNOWLEDGEMENT STI CALBUQUERQUE LABORATORY

SUSTOMER Eissell Point STP

ADDRESS / DE, Strand arenue

CITY St. Louis Missouri 63147

PRELIMINARY DATE

REPORT

TOTAL NO. OF SAMPLES 6 DATE RECEIVED 7/24/86 DATE DUE 8/20/86

TYPE OF ANALYSIS

SINCE ALBUQUERQUE LABORATORY

PRELIMINARY DATE

REPORT

TOTAL NO. OF SAMPLES 6 DATE RECEIVED 7/24/86 DATE DUE 8/20/86

TYPE OF ANALYSIS

SINCE POINT ALBUQUERQUE LABORATORY

ALBUQUERQUE LABORATORY

ALBUQUERQUE LABORATORY

PRELIMINARY DATE

REPORT

TYPE OF ANALYSIS

SINCE POINT ALBUQUERQUE LABORATORY

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PRELIMINARY DATE

REPORT

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SINCE POINT ALBUQUERQUE LABORATORY

AND DATE POINT ALBURER

TYPE OF ANALYSIS

SINCE POINT ALBURER

TYPE OF ANALYSIS

SAMPLE RECEIPT ACKNOWLEDGEMENT

LAB NO CUSTOMER IDENTIFICATION 17374 #1 BPSTP ASH PILE ANGELICA ST-AERRYST	CUSTOMER SAMPLE NO	DATE COLLECTED	RALLYSIS	TOTAL	wt		*
75 #2BPSTP ASH PILE ANGELICA-FERRY STR.							
76#3BPSTP ASHPILE ANGELICA-FERRY STS.							
77#4BPSTP ASAPLLE ANGELIEN-FERRY SE		a construction must be private to be surply of the	de est de la communicación				
78#5BPSTP ASAPILE ANGELICA - FERRY STS 79#6BPSTP ASH PILE ANGELICA - FERRY ST							

CC: Bernand A. Rains



Thermo Electron Eberline Analytical & Van Lukerman 8/25/86

021 PAN AMERICAN HWY. NE ALBUQUERQUE, NEW MEXICO 87109 HONE (505) 345-3461 PAGE____OF____

CUSTG- ER ATTENTION

Metropolitan St. Louis Sewer Dist.

Bissell Point STP

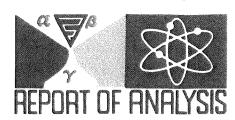
ADDRESS Al Callier

CITY

10 E. Grand Ave. W.O. NO.

St. Louis, Missouri 63147

E-6162



Radium in inciner	ator Ash	cus	P9754W TOMER ORDER NUMBER	SAMPLES RECEIVED 7/24/86
Customer Identification	Date Collected	Type of Analysis	Total Wt. (g) dry	pCi/g (dry)
粗BPSTP Ash Pile Angelica St. Ferry St.	7/9/86	Ra-226	647	1.2±0.2
#2BPSTP Ash Pile Angelica- Ferry St.	11	11	599	1.2±0.2
#3BPSTP Ash Pile Angelica- Ferry St.	11	н	648	0.6±0.2
#4BPSTP Ash Pile Angelica- Ferry St.	11	II	660	2.2±0.2
#5BPSTP Ash Pile Angelica- Ferry St.		н	659	0.5±0.2
#6BPSTP Ash Pile Angelica- Ferry St.	n	н	687	1.1±0.2

Bernard A. Rains cc:

REPORTED VIA TELEPHONE

PAGE 1 OF 1 PAGE

Eberline Thermo Analytical Inc.

7021 PAN AMERICAN FREEWAY, N.E. ALBUQUERQUE, NEW MEXICO 87109 PHONE (505) 345-3461 APPROVED BY

Rod Melgard, Mgr.

9/15/86

DATE

400 Woods Mill Road South, Suite 330 • Chesterfield, Missouri 63017-3427 • Telephone (314)576-7330 • Fax: (314)576-2702

5 May 1995

Mr. Bernard A. Rains Metropolitan St. Louis Sewer District 10 East Grand Avenue St. Louis, MO 63147-2913

Re: Transmittal of Final Project Report Angelica Street Ash Pile Environmental Evaluation 726589-05000

Dear Mr. Rains:

Parsons Engineering Science Inc. is pleased to submit five copies of the Final Report on the Angelica Street Ash Pile Environmental Evaluation. This report summarizes a field investigation performed in November 1994 which involved 33 borings across the pile. Ash was brought to the surface and inspected across the entire length of each boring. All ash was screened in the field for radioactivity, and samples were collected for analysis in the laboratory. Tests were run for metals and radioactivity. A small number of samples were tested for specific organic compounds. No significant concentrations of any constituents were found in the samples.

The results of this study show that the ash can be moved to the District's Prospect Hill Landfill without impacting the environment. This transfer can be accomplished using routine construction practices.

We appreciate the opportunity to be of service to the District. If you have any questions, please call me or Lee Gorday.

Yours truly,

David E. Mizell, P.E.

PARSONS ENGINEERING SCIENCE, INC.

Project Manager

Environmental Evaluation Angelica Street Ash Pile

Prepared For:

Metropolitan St. Louis Sewer District 10 East Grand Avenue St. Louis, Missouri 63147

May 1995

Submitted by:

PARSONS ENGINEERING SCIENCE, INC. Suite 330 400 Woods Mill Road South St. Louis, Missouri 63017-3427

FREPORT.DOC

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LIST OF ACRONYMS

ASTM American Society of Testing Materials

CFR Code of Federal Regulations

EPA Environmental Protection Agency

FUSRAP Formerly Used Site Remedial Action Program

ICAP Inductively Coupled Argon Plasma

mg/kg milligrams per kilogram

MSD Metropolitan St. Louis Sewer District

MDNR Missouri Department of Natural Resources

NRC Nuclear Regulatory Commission

pCi/g picoCuries per gram

pCi/l picoCuries per liter

RCRA Resource Conservation and Recovery Act

SVOCs Semivolatile Organic Compounds

TCLP Toxicity Characteristic Leaching Protocol

TLD Thermoluminescent Detector

U²³⁸ Uranium 238 isotope

VOCs Volatile Organic Compounds

1. INTRODUCTION

1.1 PROJECT HISTORY

The Metropolitan St. Louis Sewer District (MSD) wishes to dispose of a pile of incinerator ash that is currently stored at its Bissell Point Treatment Plant on North Grand Avenue in the City of St. Louis. This pile, informally known as the Angelica Street Ash pile, was created in the early 1980s when MSD cleaned out ash ponds on two occasions. The Bissell Point Treatment Plant began operations in the early 1970s. One or more facilities within the Bissell Point service area may have contributed radionuclides and waste water containing elevated metals concentrations to the wastewater processed by the plant. Improvements in pretreatment of wastewater since the Bissell Point Plant opened have resulted in a decrease in metals entering the treatment plant.

Incinerator ash contains residues from the incineration of sewage sludge. The sewage treated at the Bissell Point Plant consists of both domestic and industrial wastewaters. Metals and other non-volatile constituents pass through the treatment and incineration processes and are concentrated in the ash. The ash in the Angelica pile was produced during the early days of the Bissell Point Treatment Plant operation, and has not been thoroughly characterized for ultimate disposal. The MSD began disposing of ash into its Prospect Hill Landfill after creation of this pile, and has continued this practice to the present day.

Ash from the incinerator is pumped as a slurry into the ash ponds. As the slurry spreads through the pond, the ash settles out of the suspension. Clear water from the ponds is removed for additional treatment. Short term variations in the metals or radioisotope concentrations of the incinerator ash are moderated to some degree by the ash handling. A particular quantity of ash is distributed in a thin layer throughout the ash pond as a part of the settling process. When the pond is full of ash, free standing water is removed, and sumps are dug to allow water to drain from the ash. The ash is loaded into dump trucks for transportation to the disposal facility. Any given load of ash to be transported is likely to be a mixture of ash from all levels within the pond, but represents only a small horizontal area.

The constituents in the ash may have changed between the time that the first ash was placed at the Angelica Street site and the second ash disposal. Bulk variation in metals or radioisotope concentrations between the two periods of ash disposal may result in variations in concentrations vertically within the pile (if the ash from the second period of disposal was placed on top of the ash from the first period) or within areas of the pile (if one area is related to the first disposal period and another area is associated with the second disposal period). The pile ranges from approximately 6 to 10 feet thick. The ash was deposited in the pile from dump trucks in two or more layers.

1.2 SITE DESCRIPTION

The ash pile is located just south of MSD's Bissell Point Treatment Plant in the northeastern portion of the city of St. Louis (see Figure 1.1). The site is located on the north side of Angelica Street. The site is bounded to the west and northwest by the tracks of the Terminal Railroad Association's southern approach to Merchants Bridge. The site is bounded to the east by a concrete batch plant (apparently inactive) that is located on MSD property, and further to the east by a warehouse owned by Lange-Steadman. Vacant land lies between the north side of the ash pile and the trestle that constitutes the western end of Merchants Bridge.

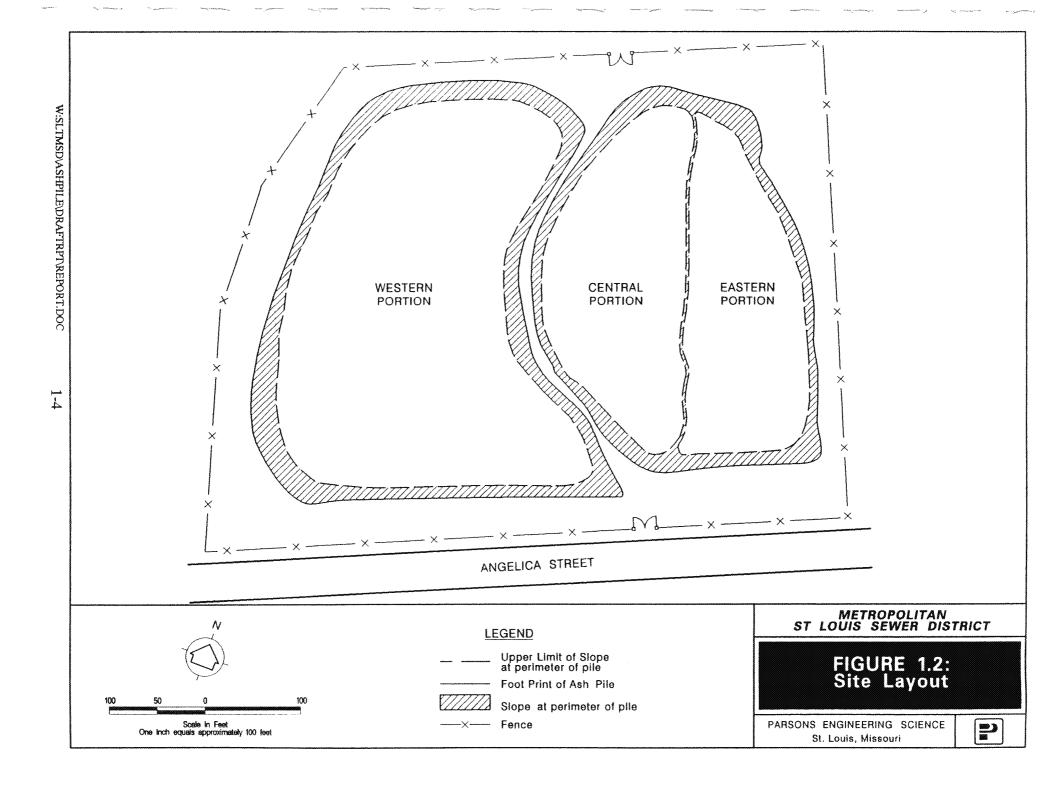
The ash pile is approximately 6 to 10 feet above the local grade. Prior to this project the upper surface of the ash pile was very uneven. This was a result of the numerous mounds left from the unloading of the dump trucks. The pile was overgrown with weeds and scattered small trees. A ramp bisects the site north to south. The upper surface of the pile is approximately 5 to 7 feet above the highest point of the ramp.

The ash pile is surrounded by a 7 foot chain-link fence. Two gates allow access to the site. The gate on the northern side of the site is missing. The layout of the site is shown on Figure 1.2. The ash pile can be divided into three areas. The western portion of the pile is the area west of the ramp that bisects the site. The eastern portion of the pile extends from the pile's eastern margin to a slope that bisects the part of the pile east of the ramp. The central portion of the site lies east of the ramp but west of the linear slope. The surface of the pile in the eastern portion lies at an elevation that is generally 5 to 7 feet lower than the central and western portions of the pile.

The area around the ash pile is used primarily for industrial purposes. There are no residences within one-half mile of the site. The number of persons within close proximity of the site is very low owing to the site access restrictions and the low density land uses nearby.

1.3 PROJECT OBJECTIVES

MSD wishes to dispose of the ash in the Angelica Street pile in a manner which complies with all environmental laws and regulations. In order to select the appropriate disposal alternative, MSD wishes to understand what constituents are present in the pile, and at what concentrations. These data are needed to evaluate the disposal alternatives that are available to MSD. MSD also wishes to identify the regulatory requirements associated with the ash. The ultimate goal of this project is to develop a recommendation for disposal of the ash and to identify any risks to human health and the environment associated with this disposal option.



2. SAMPLING PROCEDURES

2.1 SITE PREPARATION

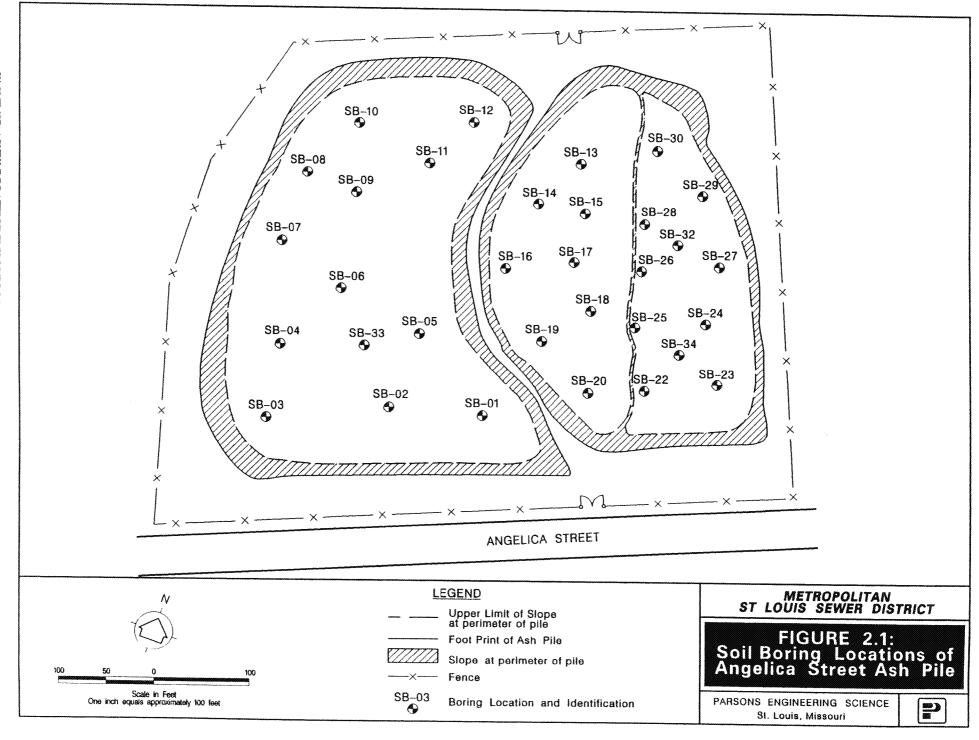
In order to efficiently access the top of the ash pile with the drilling rig, the upper surface of the pile was smoothed with a bulldozer. This clearing and leveling greatly enhanced the ability of the drill rig to move across the pile and allowed for boreholes to be more evenly distributed. Once the pile was cleared and leveled, vehicular access to the site was restricted by placing a chain across the gap in the chain link fence left by the missing gate.

A surveyor was subcontracted to define the footprint of the pile and to establish a 20-meter (65 feet) grid across the site. The surveyor also established a local reference point with an arbitrary elevation of 100.0 feet. This reference point was used to establish all subsequent site elevations. The site grid and outline of the footprint of the pile were used to identify borehole locations. The borehole locations were selected to provide for uniform borehole density across the site. A sampling plan was developed that called for three ash samples to be collected from each of the boreholes advanced in the portion of the pile west of the ramp and the boreholes advanced in the higher plateau area east of the ramp. Two samples were to be collected from each borehole in the lower plateau area (the easternmost portion of the site) because the thickness of the ash pile was expected to be thinner in this area.

2.2 BORING PROCEDURES

A total of 33 boreholes were advanced using hollow stem augers. The locations of the boreholes are shown on Figure 2.1. Continuous soil sampling was conducted ahead of the augers using a split-spoon sampler. The split-spoon sampler was driven using a drop hammer or pushed using the rig hydraulics. Sample recovery in the ash was generally better when the sampler was pushed rather than hammered. The samplers and flight augers were decontaminated between each use. The decontamination procedure is described in Section 2.4.

Boreholes were generally advanced to 2 to 4 feet below the bottom of the ash pile. Several boreholes in the eastern portion of the site encountered refusal at the bottom of the ash pile. Each split-spoon sample was screened for radioactivity using a Victoreen model 190 radiation detector equipped with a pancake probe capable of detecting alpha, beta and gamma radiation. A written description of the contents of each split spoon was recorded on the boring log form. Boring logs are presented in Appendix A. All field activities were supervised by a Parsons Engineering Science geologist. At the completion of each borehole, the borehole was backfilled with cuttings. The holes were not grouted because of the intention to remove the pile in the near future, and the fact that the



Prospect Hill landfill is permitted to receive only ash. Soil boring SB-21 was advanced in the area of the ramp to evaluate whether ash was present in the area. Because ash was not present, analytical samples were not collected from the borehole.

In response to concerns from the Missouri Department of Natural Resources (MDNR) Hazardous Waste Enforcement Unit, three subsurface soil samples were collected for analysis of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). These samples were collected from a depth of 4 to 5 feet using a hand auger sampler. The hand auger was decontaminated prior to each boring. The borings were advanced adjacent to soil boreholes SB-09, SB-18 and SB-28.

2.3 BASELINE SAMPLES

Three samples of the ash currently in the ash ponds at the Bissell Point Plant were collected for comparison with the ash from the Angelica Street pile. These samples were analyzed for gross alpha and gross beta. This information was needed in order to evaluate the degree, if any, to which radioactivity is elevated in the ash pile. Unlike metals concentrations, there are currently no standards for low level radioactivity in soil or ash promulgated by the Environmental Protection Agency (EPA) or the Nuclear Regulatory Commission (NRC).

The samples were collected from three sumps in the ash in the north ash pond at the Bissell Point treatment plant. These sumps were dug to allow water in the ash to be removed, so that the ash would dry out enough to handle. Samples were collected from several depths within the edge of the sump using a stainless steel hand auger. The material from each depth sampled was placed in a stainless steel bowl and composited. One composited sample was submitted for analysis from each of the three sumps that were sampled. The hand auger and stainless steel bowl were decontaminated before beginning sampling at each sump.

2.4 DECONTAMINATION

All sampling equipment was decontaminated prior to each use. The decontamination protocol for the equipment contacting the sample consisted of the following steps. The sampling equipment was scrubbed using stiff brushes and a solution of potable water and laboratory grade, phosphate free detergent. The equipment was rinsed with potable water. The equipment was then rinsed with distilled water. The flight augers were steam cleaned using a solution of potable water and laboratory grade, phosphate free detergent. After washing, the augers were rinsed with potable water. Decontamination fluids were allowed to infiltrate into the ash pile.

2.5 SAMPLE COLLECTION AND HANDLING

Initial sampling plans called for three samples to be collected from each borehole in the western portion of the site and from each borehole in the higher plateau of the eastern portion of the site. Two samples were to be collected from each borehole in the lower portion of the eastern part of the site. Radiation scan results were to be used to aid in selection of samples, so that the samples would represent the material with both the greatest and the least radioactivity. An additional criteria was to have the samples well distributed throughout the depth of the pile.

The ash thickness was generally less than expected, especially in the western portion of the site, where the thickness was expected to be greatest. Because the ash pile was not as thick as expected, only two samples were submitted for analysis from a number of the boreholes located in the western portion of the site. There appeared to be little variation in radiation levels detected in the scan of the split-spoon samples. As a result, analytical sample selection was based upon obtaining a favorable vertical distribution of samples and adequate sample recovery.

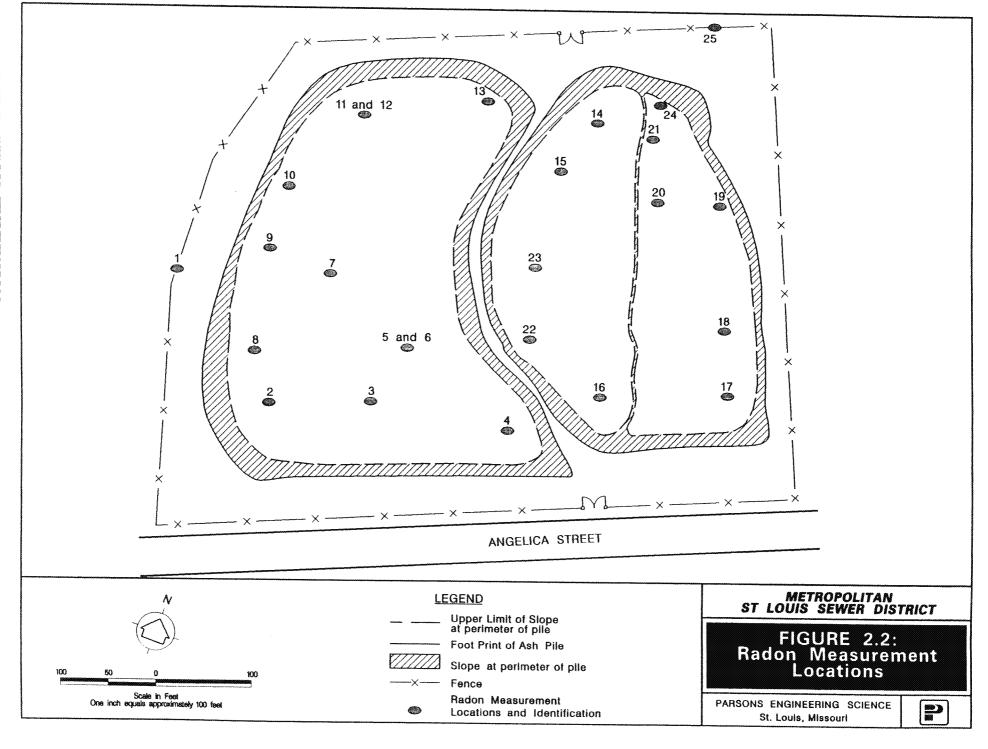
Ash samples selected for laboratory analysis were placed in glass sample jars provided by the laboratory. The sampler wore fresh nitrile disposable gloves when handling the sample. The sample was transferred directly from the split-spoon sampler to the sample jar. The sample jar was completely full unless prevented by poor sample recovery. Each sample jar was labeled with the sample identification, date, time of collection, analyses to be performed and name of sampler. Sample identification consisted of the borehole number, followed by the sample number for that borehole (SS1, SS2, etc.), followed by the upper depth of the sample range and the lower depth of the sample range. For example sample SB02-SS1-2-4 would correspond to the first sample from borehole SB02 and would have been collected from the depth range of 2 to 4 feet. The sample number has been dropped from the sample identification presented in the tables of results in Section 3. The sample jar was immediately placed on ice. Samples were handled under chain-of-custody procedures throughout sampling and analysis. Samples from which a duplicate sample was submitted were homogenized in a stainless steel bowl before the sample jars were filled. Split-spoon samples not submitted for laboratory analysis were placed in zipper topped plastic bags and stored in case the material was needed for subsequent analysis.

2.6 RADON MEASUREMENTS

Radon emanation from the ash was evaluated by placing radon detectors throughout the ash pile. The radon detectors were placed under plastic bowls on the surface of the ash. Background radon measurements were made at two locations along the perimeter of the site. The locations of the radon measurements are shown on Figure 2.2.

2.7 ANALYTICAL PROCEDURES

A variety of analytical procedures were used for this investigation. Radioactivity in the ash was evaluated using gross alpha and gross beta analyses as general indicators. Many of the ash samples were also analyzed for total uranium. Isotope specific analyses were considered, including Radium 226, but these analyses were not performed due to the generally low radioactivity of the samples. Gross alpha and gross beta analyses were performed using a modification of EPA method 900.0 to allow for the analysis of solid samples. This technique uses a gas proportional counter to determine the total alpha and beta emissions from a sample of known mass. The analyses were performed according to



laboratory standard operating procedures for this method, which include checks of quality control. Total uranium analyses were performed using method ASTM 5174-91. The uranium content was determined by measuring phosphorescent emissions resulting from the sample being illuminated using a laser. The laboratory reported the total uranium results in milligrams per kilogram (mg/kg). The concentrations can be converted into activities in picoCuries per gram (pCi/g) by multiplying the concentration by 6.89 x 10⁻⁴ (Quanterra, communication dated 27 January 1995). This conversion assumes that the uranium is from a natural source and is not enhanced in any specific isotope. Results of the gross alpha, gross beta and total uranium analyses are presented in Appendix B.

The radon detectors used for this investigation contain an isolated wire grid. Radioactive emissions strike the grid, creating an electrical charge which is then measured in the laboratory.

Analyses for total metals were performed using SW-846 6010 for most metals. Method 6010 determines the concentration of various metals by atomic emission spectroscopy using an inductively coupled argon plasma (ICAP). Selenium was analyzed using method SW-846 7740. Thallium was analyzed using SW-846 7841. Methods 7740 and 7841 are graphite furnace atomic absorption techniques. Mercury was analyzed using method SW-846 7470, which is a cold vapor method. Standard quality control procedures were followed as outlined in the applicable methods. Laboratory results for the total metals analyses are presented in Appendix C. Ten of the ash samples that had been tested for total metals were analyzed using toxic chemical leaching procedures (TCLP). The ash was placed in a heated acidic solution and agitated. The liquid was analyzed for metals leached from the ash using the methods outlined above. As with the total metals analyses, standard quality control procedures were utilized. The results of the TCLP analyses are included as Appendix D.

Volatile organic chemical (VOC) analyses were conducted using method SW-846 8240. Semi-volatile organic chemical (SVOC) analyses were conducted using method SW-846 8270. Both of these methods utilize a gas chromatograph for separation of target compounds with a mass spectroscopy used to detect and quantify the specific compounds. The quality control procedures specified in the applicable methods were followed. The results of the organics analyses are presented in Appendix E.

3. RESULTS

3.1 RADIOACTIVITY

3.1.1 Radioactivity in Ash

A total of 78 ash samples from the ash pile were submitted for analysis of radioactivity. Three samples of ash currently being generated were submitted for analysis from the ash ponds at the Bissell Point Treatment Plant. All of these samples were analyzed for gross alpha activity and gross beta activity. Five samples from the ash pile were submitted in duplicate. The duplicate samples were submitted with a dummy identifier to make them appear as normal samples. A comparison of laboratory results for duplicate samples is presented in Section 3.4.

Results of the gross alpha and gross beta analyses are listed in Table 3.1. A statistical summary of these results is presented in Table 3.2. The full laboratory report is included as appendix B. Gross alpha activities for the ash pile samples ranged from 30.1 to 107 picoCuries per gram (pCi/g). The distribution of gross alpha activities is shown in Figure 3.1. The mean gross alpha activity was 51.4 pCi/g. The 90 percent and 95 percent confidence intervals are relatively small due to the large number of samples and the small standard deviation of the samples. An analysis was conducted to determine whether there was any variation in the radioactivity relative to vertical position within the ash pile. The mean gross alpha activity for the samples from the uppermost 4 feet of the ash pile was 52.8 pCi/g, which is within the 95 percent confidence interval of the mean for the entire pile. Similarly, results from the lowermost portions of the pile were within the 95 percent confidence interval for the entire pile. A slight variation in gross alpha activity exists across the pile. The mean gross alpha activity for the samples collected west of the central ramp was 55.2 pCi/g which is slightly above the 95 percent confidence limit for the entire pile. The central and eastern portions of the pile had mean gross alpha activities of 51.2 and 46.8 pCi/g, respectively.

The mean of the gross beta activity of the samples from the ash pile was 43.0 pCi/g. The large number of samples and low standard deviation resulted in narrow confidence intervals at both the 90 percent and 95 percent confidence limits. The distribution of gross beta activities is shown in Figure 3.2. Vertical variation in gross beta activity within the pile was negligible. The mean gross beta activity within the uppermost 4 feet of the pile was 43.4 pCi/g, whereas the activity of the samples collected below a depth of 6 feet was 42.3 pCi/g. These mean activities are well within the 95 percent confidence interval for the pile as a whole. Variation in gross beta activity laterally across the pile was insignificant. The highest mean gross beta activity (44.2 pCi/g) occurred in the western portion of the pile. The central portion of the pile had the lowest gross beta activity (42.1 pCi/g). The total variation was low compared to the gross alpha activity results.

Table 3.1
Gross Alpha and Gross Beta Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994

(Page 1 of 3)

Sample Identification	Measured Parameter			
Borehole # - Top - Bottom	Gross Alpha 1	Gross Beta 1		
	000000000000000000000000000000000000000			
SB01-2-4	50.0	50.4		
SB01-4-6	63.6	46.5		
SB01-6-8	47.5	46.5		
SB02-2-4	49.9	48.3		
SB02-6-8	85.6	50.1		
SB02-8-9.5	43.6	41.8		
SB03-2-4	57.0	45.8		
SB03-4-6	49.1	39.2		
SB04-2-4	55.5	46.2		
SB04-6-7	59.4	47.4		
SB05-2-4	45.7	37.4		
SB05-6-8	52.2	39.6		
SB06-2-4	52.0	47.0		
SB06-6-8	66.5	46.1		
SB06-13-14	41.3	25.0		
SB07-2-4	56.7	40.6		
SB07-4-6	61.8	37.8		
SB08-0-2	60.3	43.1		
SB08-6-8	60.0	42.8		
SB09-0-2	48.6	44.1		
SB09-6-8	71.7	47.1		
SB10-2-4	107	61.4		
SB10-6-8	53.5	46.0		
		ner en rescribe for est à britain de des rives d'en de référible se ne ne ne se souve sens proper par se		
SB11-0-2	65.4	38.2		
SB11-4-6	39.7	44.1		
SB11-8-9	55.0	41.4		

Notes: (1) All values reported in pCi/gram

Table 3.1 - Continued Gross Alpha and Gross Beta Analyses Angelica Street Ash Pile October 31 - November 3, 1994

(Page 2 of 3)

Sample Identification	Measured Parameter	
Borehole # - Top - Bottom	Gross Alpha 1	Gross Beta ¹
		account of a particular and the state of the
SB12-0-2	48.0	43.5
SB12-2-4	42.1	47.5
SB12-8-9	46.6	42.7
		WARE THE THE THE THE THE THE THE THE THE TH
SB13-0-2	67.3	47.4
SB13-6-8	45.6	41.0
SB13-8-10	49.3	42.9
SB14-0-2	48.9	35.8
SB14-4-6	38.9	41.3
SB14-8-10	45.5	43.7
SB15-2-4	64.7	44.1
SB15-6-8	41.5	40.7
SB15-8-9	57.4	43.1
SB16-0-2	49.8	42.7
SB16-4-6	40.1	36.7
SB16-8-9	38.7	34.7
SB17-2-4	71.4	45.9
SB17-4-6	67.3	49.7
SB17-6-8	44.5	37.6
SB18-2-4	60.8	47.3
SB18-4-6	51.3	44.3
SB18-6-8	64.0	50.4
SB19-0-2	38.2	33.9
SB19-4-6	36.9	35.0
SB19-6-8	42.0	34.4
GD20 0 0		
SB20-0-2	47.5	41.2
SB20-4-6	61.1	54.5
SB20-8-9	52.3	41.8

Notes: (1) All values reported in pCi/gram

Table 3.1 - Continued Gross Alpha and Gross Beta Analyses Angelica Street Ash Pile October 31 - November 3, 1994

(Page 3 of 3)

Sample Identification	Measured Parameter		
Borehole # - Top - Bottom	Gross Alpha 1	Gross Beta ¹	
		esimonii Palliconii Zoborii connoci i i i connoci i	
SB22-2-4	44.5	40.1	
SB22-6-7	43.3	39.9	
SB23-2-4	54.2	45.1	
SB23-6-8	33.7	35.0	
SB24-2-4	49.9	41.1	
SB24-6-8	38.8	39.0	
CDOS O 4	F 0	A.O. 4	
SB25-2-4	53.6	40.1	
SB25-6-8	45.0	37.6	
SB26-4-6	106	71.9	
SB26-6-8	41.9	42.1	
3520-0-0	71.7	72.1	
SB27-2-4	52.7	37.9	
SB27-6-8	36.6	37.4	
		ACTION DE CONTRACTOR DE CO	
SB28-2-4	50.5	48.5	
SB28-6-8	35.1	44.2	
SB29-2-4	43.0	43.5	
SB29-4-6	30.1	44.6	
SB30-2-4	46.2	45.4	
SB30-6-8	42.0	41.2	
SB31-2-4	43.0	39.1	
SB31-6-8	48.8	48.7	

SB32-2-4	35.1	41.1	
SB32-6-8	55.9	43.5	
SB33-0-2	31.4	36.6	
SB33-4-6	41.6	38.0	
SB33-8-10	43.5	41.6	

Notes: (1) All values reported in pCi/gram

Table 3.2
Gross Alpha and Gross Beta Statistical Analysis
Angelica Street Ash Pile
October 31 - November 3, 1994

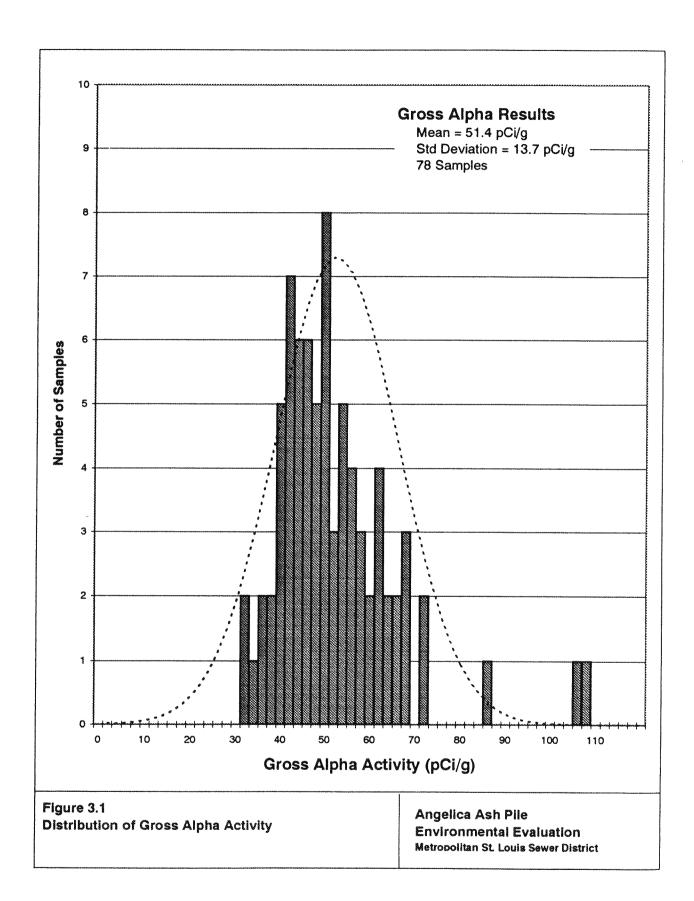
Statistical Function	Measured Parameter	
	Gross Alpha 1	Gross Beta 1
Standard Statistics		
Number of Samples	78	78
Minimum Value	30.1	25.0
Maximum Value	107	71.9
Mean	51.4	43.0
Median	49.0	42.8
Standard Deviation	13.7	6.2
Coefficient Of Variation (%) ²	26.6	14.3
Confidence Limits ³		
95% Confidence Limit	3.0	1.4
Upper Limit	54.4	44.3
Lower Limit	48.3	41.6
90% Confidence Limit	2.5	1.1
Upper Limit	53.9	44.1
Lower Limit	48.8	41.8

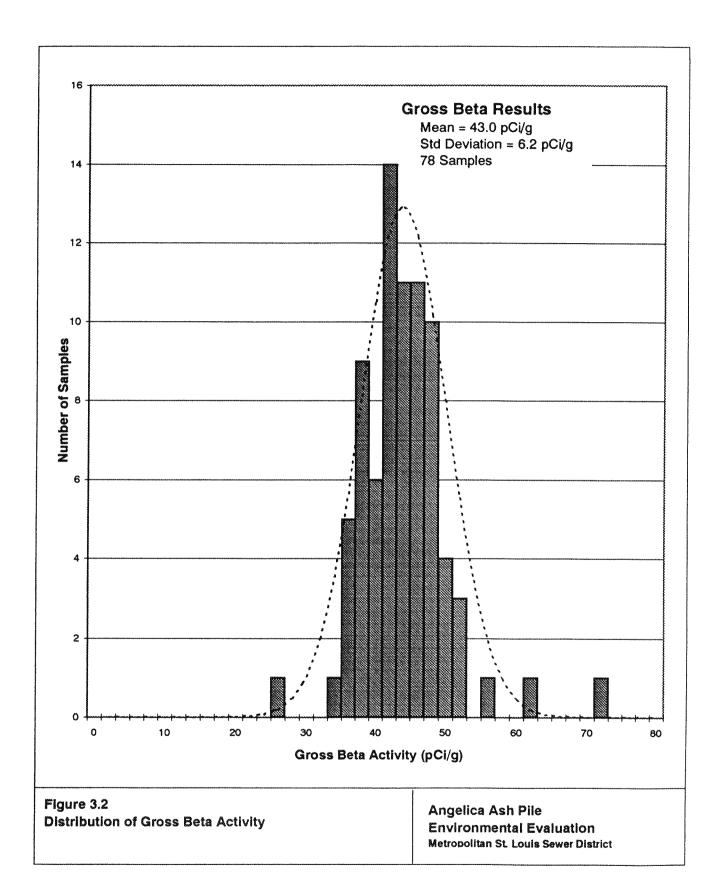
Notes: (1) All values reported in pCi/gram

- (2) Coefficient of variation is the standard deviation divided by the mean
- (3) Confidence is the confidence interval for a population mean and is calculated by the following equation:

For the 95% confidence -

Confidence = ± 1.96 [standard deviation/(sample size)^{1/2}]





3-7

Three samples of recently generated ash from the sludge incinerator at the Bissell Point Plant were collected for analysis of gross alpha and gross beta for comparison with the ash from the Angelica Street pile. These samples represent a baseline of radioactivity levels in ash currently being placed in the Prospect Hill Landfill. The results of these analyses are presented in Table 3.3. The mean gross alpha activity in the baseline samples is 26.9 pCi/g. The mean gross beta activity is 31.4 pCi/g. The standard deviation of the baseline samples was very low, resulting in a very narrow confidence interval. The gross alpha activity of the ash pile appears to be elevated by a factor of 2 with respect to the baseline samples. Gross beta activity is elevated in the samples from the ash pile with respect to the baseline, but to a lesser degree than with the gross alpha activity.

3.1.2 Radon Gas Emanation

Results of radon gas measurements from the ash pile are shown on Figure 3.3 and are listed in Table 3.4. Measurements of radon emanating from the ash pile ranged from 13 to 80 picoCuries per liter (pCi/l). The mean of these measurements was 52.5 pCi/l. The standard deviation of the measurements was 17 pCi/l. Radon gas concentrations on the ash pile were approximately seven times the average concentration of the two background samples. The subcontractor who conducted the radon testing, Radon Detection Systems, Inc. (RDS), provided Parsons ES with an additional background radon emanation measurement for the St. Louis area (T. Smith, RDS, pers. commun., 1995). The results of this measurement was a radon concentration of 26 pCi/l. The sample was collected in the back yard of a RDS technician in the Lemay area of south county. Mr. Smith reports that typical background radon emanation concentrations range from 10 to 20 pCi/l.

The concentration of radon emanating from the ground is controlled by several factors. A primary factor is the concentration of radionuclides in the soil. Another important factor in the emanation of radon is the permeability of the soil. A soil with a high permeability will permit radon gas to move into the confined space under the bowl. A soil with a low permeability will not allow radon gas to move readily.

It is not known how much of the elevation in radon concentration is due to elevated radioactivity in the soil and how much the elevated radon concentrations are due to differences in soil permeabilities. The permeability of the ash in the Angelica Street pile is relatively high compared to the soils in which the background samples were collected.

3.2 METALS

3.2.1 Total Metals

A total of 60 samples from the ash pile were submitted to the laboratory for analysis of total metals content. These samples were also analyzed for total uranium content. Three samples were submitted in duplicate to the laboratory. The results of the duplicate analysis are presented in Section 3.4. Table 3.5 lists the results of the metals analyses. The maximum concentration for each metal is listed in bold type. Minimum reported concentrations are shown in italics. A minimum is not indicated for metals that had concentrations less than the detection limit. A statistical summary of the results is presented in Table 3.6. Where the concentration was reported as below the detection

Table 3.3
Gross Alpha and Gross Beta Baseline Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994

	Measured	Parameter
Sample Identification	Gross Alpha 1	Gross Beta 1
BG-ASH-1	24.8	31.1
BG-ASH-2	25.6	30.1
BG-ASH-3	30.4	33.0
Mean	26.9	31.4
Standard Deviation	2.5	1.2
Coefficient Of Variation (%) ²	9.2	3.8

Notes: (1) All values reported in pCi/gram

(2) Coefficient of variation is the standard deviation divided by the mean

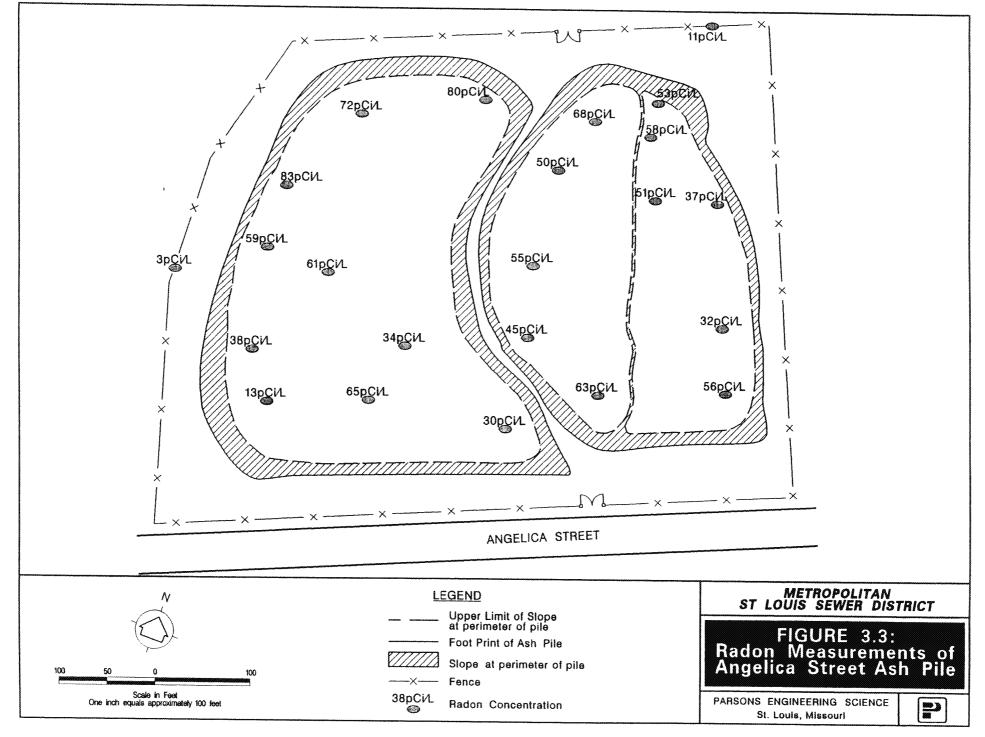


Table 3.4
Radon Analysis
Angelica Street Ash Pile

October 31 - November 3, 1994

Detector Number	Radon Concentration
1 (Background)	3.0
2	13.0
3	65.0
4	30.0
5	34.0
7	61.0
8	38.0
9	59.0
10	83.0
11	72.0
13	80.0
14	68.0
15	50.0
16	63.0
17	56.0
18	32.0
19	37.0
20	51.0
21	58.0
22	45.0
23	55.0
24	53.0
25 (Background)	11.0
Mean	52.5
Standard Deviation	17.0
Coefficient	32.4
Of Variation (%) 2	

Notes: (1) All values reported in pCi/liter (air)

- (2) Coefficient of variation is the standard deviation divided by the mean multiplied by 100
- (3) Statistics exclude background samples

3-11

Table 3.5 Metals Chemical Analyses Angelica Street Ash Pile October 31 - November 3, 1994

(Page 1 of 8)

Measured			Sample Id	entification (Bo	rhole # - Top	- Bottom)	peninga berjada galanga da sabah kebahan kepala	skonsom on stander strande and the best seeds accessed
Parameter ¹	SB01-2-4	SB01-6-8	SB02-2-4	SB02-8-9.5	SB03-2-4	SB04-2-4	SB05-6-8	SB06-6-8
Aluminum	27,500	28,800	27,700	27,500	29,100	29,700	28,500	30,400
Antimony	19:0	29.8	29.9	22.4	17.5	ND	15.6	16.1
Arsenic	13.6	12.7	13.9	13.7	13.1	12.7	ND	15.4
Barium	3,600	3,470	3,860	3,580	3,100	3,700	3,450	4,180
Beryllium	2.6	2.8	2.7	2.7	2.8	2.9	2.7	3.1
Cadmium	16.2	17.1	16.2	20.1	20.1	14.9	10.8	21.9
Calcium	71,200	64,500	71,400	70,200	82,600	72,300	97,000	70,300
Chromium	398	407	403	407	408	452	393	493
Cobalt	16.8	17.5	17.7	17.5	17.3	18.9	18.9	19
Copper	472	470	480	468	423	480	408	521
Iron	41,300	43,100	42,500	37,300	42,400	45,300	45,200	47,100
Lead	418	456	460	465	502	462	387	501
Magnesium	5,830	5,830	6,060	5,760	6,290	6,310	7,310	6,540
Manganese	542	533	559	545	569	568	597	591
Mercury	0.15	0.22	0.17	0.20	0.21	0.14	ND	0.19
Nickel	104	111	108	109	106	116	110	121
Potassium	4,170	4,520	4,190	4,230	4,530	4,230	3,900	4,930
Selenium	ND	ND	ND	ND	0.49	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	14.7	ND
Sodium	2,450	2,430	2,430	2,450	2,440	2,640	2,330	2,670
Thallium	0.53	0.70	0.54	0.77	0.59	0.53	ND	0.78
Vanadium	118	121	119	124	104	127	108	130
Zinc	2,360	2,500	2,500	2,660	3,160	2,640	2,670	3,040
Total Uranium ²	15,800	12,000	9,030	15,000	6,690	17,400	13,100	19,700

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Table 3.5 - Continued **Metals Chemical Analyses Angelica Street Ash Pile** October 31 - November 3, 1994

(Page 2 of 8)

Measured			Sample Ide	entification (B	orhole # - To	p - Bottom)		
Parameter 1	SB06-13-14	SB07-2-4	SB07-4-6	SB08-0-2	SB09-0-2	SB09-6-8	SB10-6-8	SB11-0-2
Aluminum	15,800	28,600	29,100	25,500	31,700	27,500	30,900	31,300
Antimony	ND	25.9	16.6	ND	23.3	21.8	16.1	17.7
Arsenic	34	12.7	12.6	15.1	15.2	22.3	10.9	15.5
Barium	3,050	3,420	2,940	3,490	3,750	4,190	3,080	3,680
Beryllium	ND	2.6	2.7	2.4	2.9	2.6	2.7	3.0
Cadmium	30.4	13.6	15.4	15.6	20.4	22.9	16.4	14.0
Calcium	221,000	79,100	98,100	75,300	73,600	86,400	70,000	79,600
Chromium	510	369	364	344	471	468	438	469
Cobalt	12.2	17.5	17.3	16.4	17.6	17.7	17.7	18.8
Copper	609	438	405	427	507	552	448	462
Iron	30,900	41,800	42,800	33,900	46,100	42,700	44,000	46,300
Lead	542	424	441	417	513	490	444	399
Magnesium	8,560	6,440	6,690	5,890	6,360	6,800	5,710	6,720
Manganese	553	559	587	528	588	563	494	594
Mercury	ND	0.15	0.14	0.19	0.23	0.20	ND	0.14
Nickel	111	101	101	97.2	121	123	109	121
Potassium	ND	4,140	4,320	4,180	4,950	4,370	4,890	4,450
Selenium	ND	ND	ND	1	ND	0	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	1,430	2,250	2,610	2,060	2,570	2,510	2,640	2,620
Thallium	ND	0.44	0.48	0.66	0.64	0.64	0.62	0.52
Vanadium	45	107.0	98	102.0	126	110	121	128
Zinc	2,520	2,470	2,990	2,410	3,100	2,940	2,820	2,440
Total Uranium ²	16,500	158,000	15,300	16,500	18,400	20,100	19,600	14,100

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Table 3.5 - Continued Metals Chemical Analyses Angelica Street Ash Pile October 31 - November 3, 1994 (Page 3 of 8)

Measured			Sample Id	entification (Borhole # - T	op - Bottom)		
Parameter 1	SB11-4-6	SB11-8-9	SB12-0-2	SB12-8-9	SB13-0-2	SB13-8-10	SB14-0-2	SB14-4-6
Aluminum	28,900	27,400	27,100	28,100	28,600	30,800	30,200	29,500
Antimony	ND	20.3	ND	16.1	16.4	ND	ND	16.3
Arsenic	17.0	13.5	16.1	13.3	13.2	14.8	33.4	11.9
Barium	5,860	2,000	4,560	3,440	3,950	4,380	2,600	3,540
Beryllium	2.9	2.7	2.6	2.7	2.6	2.9	2.9	2.6
Cadmium	20.7	16.3	17.7	18.4	15.8	21.6	15.0	10.1
Calcium	61,800	94,500	84,000	71,400	81,800	79,200	108,000	86,700
Chromium	486	377	459	470	437	473	570	407
Cobalt	20.2	15.7	14.8	15.7	15.9	15.7	14.6	15.7
Copper	487	463	464	511	526	471	444	471
Iron	47,100	37,900	38,800	39,600	39,100	42,900	37,200	40,000
Lead	560	550	470	500	474	542	523	403
Magnesium	5,950	6,750	5,250	5,890	5,670	5,860	5,670	5,660
Manganese	489	539	627	505	583	629	551	534
Mercury	0.16	0.16	0.21	0.21	0.19	0.24	0.22	0.20
Nickel	115	133	111	123	119	118	169	113
Potassium	4,620	3,750	3,900	4,460	4,860	5,160	4,250	4,670
Selenium	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	2,560	2,470	2,460	2,460	2,250	2,770	2,750	2,750
Thallium	ND	0.59	ND	0.47	0.54	0.59	0.38	0.55
Vanadium	127	83.8	115	121	125	117	118	117
Zinc	3,880	1,990	4,310	2,820	2,630	4,050	2,210	2,700
Total Uranium ²	20,000	15,600	13,000	14,900	20,400	19,200	14,800	19,600

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Table 3.5 - Continued Metals Chemical Analyses Angelica Street Ash Pile October 31 - November 3, 1994 (Page 4 of 8)

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Measured		F-7000000000000000000000000000000000000			(Borhole # - T	op - Bottom)		
Parameter ¹	SB15-2-4	SB15-6-8	SB16-0-2	SB16-8-9	SB17-2-4	SB17-6-8	SB18-4-6	SB18-6-8
Aluminum	28,600	24,900	26,200	31,800	27,800	28,600	28,700	27,900
Antimony	16.7	15.3	17.3	ND	ND	ND	ND	16.3
Arseniç	15.7	28.5	11.1	11.2	18.2	16.6	17.2	16.6
Barium	5,540	3,970	2,920	3,090	3,370	4,680	4,590	4,450
Beryllium	2.7	2.1	2.4	2.8	2.6	3.5	2.7	2.6
Cadmium	20.1	19.7	7.8	9.3	20.8	24.6	19.4	17.4
Calcium	82,600	127,000	94,400	94,800	103,000	67,700	80,600	101,000
Chromium	470	505	346	413	449	515	460	453
Cobalt	16.4	12.9	16.2	18.1	13.5	16.5	16.2	15.5
Copper	532	534	405	436	473	555	548	506
Iron	40,900	36,900	38,000	43,100	39,300	44,400	41,200	40,600
Lead	536	459	413	449	526	541	496	488
Magnesium	5,840	6,550	6,280	7,520	6,540	6,380	5,760	5,640
Manganese	624	617	596	645	590	636	608	674
Мегсигу	0.28	0.22	ND	0.20	0.23	0.35	0.16	0.22
Nickel	118	125	130	125	123	137	138	125
Potassium	4,610	3,340	3,590	4,430	3,920	4,570	4,320	4,370
Selenium	0.43	0.52	1.2	1.2	1.1	1.3	1.2	1.2
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	2,540	2,300	1,850	2,530	2,820	2,600	2,310	2,310
Thallium	0.47	ND	ND	ND	ND	ND	0.50	ND
Vanadium	132	110	101	115	101	98.6	123	121
Zinc	4,330	3,370	2,350	2,410	3,350	3,050	3,360	3,460
Total Uranium ²	23,200	16,000	16,000	13,000	19,600	17,300	20,100	44,000

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Table 3.5 - Continued Metals Chemical Analyses Angelica Street Ash Pile October 31 - November 3, 1994 (Page 5 of 8)

Measured			Sample Ide	ntification (B	orhole#-To	p - Bottom)		
Parameter 1	SB19-0-2	SB19-6-8	SB20-0-2	SB20-8-9	SB22-2-4	SB22-6-7	SB23-2-4	SB23-6-8
Aluminum	22,500	25,500	18,200	21,800	23,500	23,800	26,800	26,100
Antimony	15.1	16.6	12.4	14.6	15.2	15.7	17.0	ND
Arsenic	9.5	11.8	10.9	23.3	11.8	10.9	13.4	10.3
Barium	2,630	3,060	2,390	3,570	2,720	3,120	3,310	3,440
Beryllium	2.1	2.3	1.7	1.8	2.1	2.3	2.5	2.3
Cadmium	5.9	7.5	10.2	12.7	14.4	11.4	17.0	7.1
Calcium	95,300	96,700	111,000	118,000	93,800	95,900	89,700	81,600
Chromium	290	317	283	400	363	371	431	347
Cobalt	13.7	14.7	10.2	11.8	12.9	13.5	15.2	15.0
Copper	346	387	316	471	427	411	470	395
Iron	30,500	34,400	30,500	34,400	32,800	33,600	36,200	39,000
Lead	309	363	431	432	413	509	466	359
Magnesium	5,220	6,060	27,500	6,770	18,400	6,220	5,510	5,930
Manganese	501	572	410	527	476	496	586	536
Mercury	0.22	0.23	0.24	0.25	0.19	0.16	0.20	ND
Nickel	96.3	103	75.5	114	103	97.8	107	98.2
Potassium	2,570	3,320	2,540	2,720	3,390	3,590	3,640	3,580
Selenium	1.2	1.0	0.38	0.76	1.4	1.0	0.98	1.1
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	1,790	2,030	1,540	2,100	2,330	2,270	2,560	2,020
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	98.4	100	91.0	94.2	110	122	118	99.1
Zinc	1,960	2,230	2,000	2,320	2,170	2,220	2,650	2,130
Total Uranium ²	12,800	13,600	10,200	15,900	16,700	14,900	14,300	15,600

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Table 3.5 - Continued Metals Chemical Analyses Angelica Street Ash Pile October 31 - November 3, 1994 (Page 6 of 8)

Measured			Sample Ide	ntification (B	orhole # - To	p - Bottom)		
Parameter 1	SB24-2-4	SB24-6-8	SB25-2-4	SB25-6-8	SB26-2-4	SB26-4-6	SB26-6-8	SB27-2-4
Aluminum	29,500	31,200	28,800	18,300	29,500	NA	30,900	29,500
Antimony	ND	ND	13.5	ND	14.2	NA	ND	ND
Arsenic	11.3	11.5	11.5	14.3	11.1	NA	12.0	10.3
Barium	3,330	3,270	3,070	1,920	4,260	NA	3,270	3,260
Beryllium	2.6	2.8	2.5	1.7	2.6	NA	2.7	2.4
Cadmium	8.4	10.2	8.9	7.0	10.4	NA	10	7.6
Calcium	83,400	88,800	89,200	57,600	70,700	NA	82,300	89,600
Chromium	400	421	414	236	446	NA	428	428
Cobalt	14.7	15.4	14.7	10.7	15.7	NA	15.9	13.4
Copper	440	465	417	310	474	NA	457	419
Iron	40,200	42,400	38,000	31,800	41,900	NA	42,200	39,700
Lead	385	439	380	414	444	NA	453	361
Magnesium	5,860	6,530	5,490	4,210	5,430	NA	5,830	5,870
Manganese	558	609	544	424	542	NA	549	553
Mercury	ND	ND	0.16	0.48	0.17	NA	ND	0.13
Nickel	116	124	106	80.2	118	NA	116	114
Potassium	4,810	4,650	4,300	2,650	4,310	NA	4,680	4,380
Selenium	1.3	0.89	1.1	1.0	0.93	NA	1.1	1.0
Silver	ND	ND	ND	ND	ND	NA	ND	ND
Sodium	2,330	2,560	2,560	1,570	2,370	NA	2,450	2,410
Thallium	ND	ND	ND	ND	ND	NA	ND	ND
Vanadium	111	109	110	59.0	120	NA	111	121
Zinc	2,350	2,620	2,660	1,550	2,910	NA	2,820	2,470
Total Uranium ²	15,500	14,100	16,700	15,400	NA	28,300	17,200	13,700

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Table 3.5 - Continued Metals Chemical Analyses Angelica Street Ash Pile October 31 - November 3, 1994

(Page 7 of 8)

Measured			Sample Ide	ntification (B	orhole # - To	p - Bottom)		
Parameter ¹	SB27-6-8	SB28-2-4	SB28-6-8	SB29-2-4	SB29-4-6	SB30-2-4	SB30-6-8	SB31-2-4
Aluminum	28,200	26,000	27,600	28,100	28,700	29,800	33,200	29,600
Antimony	ND	11.1	ND	ND	11.1	ND	ND	ND
Arsenic	10.3	ND	11.6	10.1	ND	12.8	12.9	12.4
Barium	3,250	6,100	2,380	2,840	2,950	3,210	3,860	3,290
Beryllium	2.4	2.5	2.5	2.4	2.5	2.6	2.9	2.6
Cadmium	7.1	19.6	16.1	8.2	14.8	13.5	16.3	9.8
Calcium	84,600	63,300	68,000	80,900	67,200	77,200	82,400	83,900
Chromium	347	526	376	331	393	381	490	409
Cobalt	13.6	14.0	13.6	14.0	13.5	15.0	16.2	14.3
Copper	416	524	411	395	481	462	521	453
Iron	35,800	41,800	37,700	35,900	36,300	39,000	45,100	40,600
Lead	338	553	447	378	480	487	487	429
Magnesium	5,750	5,050	5,370	5,140	5,170	5,680	6,910	5,580
Manganese	496	545	481	496	480	550	643	527
Mercury	0.15	0.29	0.18	ND	0.17	0.20	0.18	0.15
Nickel	98.3	116	108	110	122	113	132	123
Potassium	4,210	3,820	4,850	3,880	4,540	4,950	5,330	4,370
Selenium	0.97	ND	1.2	0.82	ND	0.59	0.89	0.93
Silver	ND	19.1	ND	ND	16.7	ND	ND	ND
Sodium	2,550	2,190	2,730	2,140	2,470	2,380	2,960	2,460
Thallium	ND	ND	ND	ND	ND	0.67	0.68	ND
Vanadium	107	142	89.3	101	108	105	122	108
Zinc	2,250	3,980	2,880	2,190	2,310	2,610	3,230	2,550
Total Uranium ²	11,800	22,200	15,400	14,700	18,100	13,500	17,500	15,500

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Table 3.5 - Continued Metals Chemical Analyses Angelica Street Ash Pile October 31 - November 3, 1994 (Page 8 of 8)

Measured	San	nple Identific	ation (Borhol	e # - Top - Bo	ttom)
Parameter 1	SB31-6-8	SB32-2-4	SB32-6-8	SB33-0-2	SB33-8-10
Aluminum	31,900	31,400	28,900	26,000	28,400
Antimony	ND	ND	17.0	14.6	ND
Arsenic	13.5	11.0	14.6	10.5	16.8
Barium	4,090	3,520	4,370	2,860	3,460
Beryllium	2.8	2.6	2.8	2.3	2.3
Cadmium	18.5	9.5	17.9	6.3	9.2
Calcium	75,000	86,700	74,000	94,100	98,800
Chromium	519	451	438	437	431
Cobalt	14.6	14.2	15.4	15.0	13.4
Copper	501	444	484	355	440
Iron	45,300	42,000	40,400	41,500	40,600
Lead	534	409	546	336	387
Magnesium	5,850	5,810	5,710	5,420	7,080
Manganese	552	574	572	529	601
Mercury	0.65	ND	0.23	0.22	0.16
Nickel	128	123	110	112	123
Potassium	5,090	4,650	4,710	3,770	4,110
Selenium	1.0	0.81	0.89	1.3	1.1
Silver	ND	ND	ND	ND	ND
Sodium	2,530	2,580	2,710	1,970	2,470
Thallium	ND	ND	0.88	ND	0.48
Vanadium	118	123	117	99.9	112
Zinc	4,070	2,880	3,840	2,430	2,660
Total Uranium ²	22,000	17,700	18,100	11,900	13,500

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable NA - Not Analyzed

Table 3.6
Total Metals Statistical Analysis
Angelica Street Ash Pile
October 31 - November 3, 1994

				dard St	atistics					Confiden	ce Limits 4		
Measured	Number of	Minimum	Maximum			Standard	Coefficient Of	5	5% Confider	ıce	5	0% Confider	ıce
Parameter ¹	Samples	Value	Value	Mean	Median	Deviation	Variation (%) ³	Confidence	Upper Limit	Lower Limit	Confidence	Upper Limit	Lower Limit
Aluminum	60	15,800	22 200	27 907	20 (00	2 206 7	11.0	021.6	20.620	37.03 5	607.0	00.505	07.400
}	60	13,800	33,200 29.9	27,807	28,600	3,286.7	11.8	831.6	28,638	26,975	697.9	28,505	27,109
Antimony	<u> </u>	0.4		16.2	15.2	3.9	24.2	1.0	17.2	15.2	0.8	17.0	15.4
Arsenic	60		34.0	13.7	12.9	5.7	41.8	1.5	15.2	12.3	1.2	14.9	12.5
Barium	60	1,920	6,100	3,538	3,440	797.3	22.5	201.7	3,740	3,336	169.3	3,707	3,369
Beryllium	60	0.2	3.5	2.5	2.6	0.4	17.2	0.1	2.6	2.4	0.1	2.6	2.4
Cadmium	60	5.9	30.4	14.6	15.2	5.3	36.4	1.3	15.9	13.3	1.1	15.7	13.5
<u>Calcium</u>	60	57,600	221,000	86,347	82,600	22,276	25.8	5,636.6	91,983	80,710	4,730.4	91,077	81,616
Chromium	60	236	570	420	425	62.9	15.0	15.9	436	404	13.4	433	406
Cobalt	60	10.2	20.2	15.4	15.5	2.0	13.3	0.5	16.0	14.9	0.4	15.9	15.0
Copper	60	310	609	458	464	56.6	12.4	14.3	472	444	12.0	470	446
Iron	60	30,500	47,100	39,822	40,500	4164.6	10.5	1053.8	40,875	38,768	884.3	40,706	38,937
Lead	60	309	560	454	455	61.1	13.5	15.5	469	438	13.0	467	441
Magnesium	60	4,210	27,500	6,594	5,865	3,219	48.8	814.5	7,409	5,780	683.6	7,278	5,911
Manganese	60	410	674	556	553	51.8	9.3	13.1	569	543	11.0	567	545
Mercury	60	0.12	0.65	0.20	0.19	0.08	41.0	0.02	0.22	0.18	0.02	0.22	0.18
Nickel	60	75.5	169	115	115	13.9	12.1	3.5	118	111	2.9	118	112
Potassium	60	1,230	5,330	4,158	4,315	728.9	17.5	184.4	4,342	3,973	154.8	4,312	4,003
Selenium	60	0.36	1.4	0.75	0.75	0.33	44.3	0.08	0.84	0.67	0.07	0.82	0.68
Silver	60	14.7	150	51.6	29.0	43.2	83.7	10.9	62.5	40.7	9.2	60.7	42.4
Sodium	60	1,430	2,960	2,388	2,455	305.7	12.8	77.4	2,466	2,311	64.9	2,453	2,323
Thallium	60	0.33	0.88	0.49	0.46	0.12	24.6	0.03	0.52	0.46	0.03	0.52	0.47
Vanadium	60	44.5	142	111	112	15.8	14.3	4.0	115	107	3.4	114	107
Zinc	60	1,550	4,330	2,774	2,645	603.9	21.8	152.8	2,927	2,621	128.2	2,902	2,646
Total Uranium ²	59	6,690	44,000	16 656	15,800	5,030	30.2	1 202	17.040	15 272	1.077	17 777	15.570
TOTAL CLAIMOIN	37	0,090	44,000	10,030	13,800	3,030	30.2	1,283	17,940	15,373	1,077	17,733	15,579

Notes: (1) All metals values reported in milligrams per kilogram dry weight

(2) Values reported in micrograms/kilogram dry weight

(3) Coefficient of variation is the standard deviation divided by the mean

(4) Confidence is the confidence interval for a population mean and is calculated by the following equation:

For the 95% confidence -

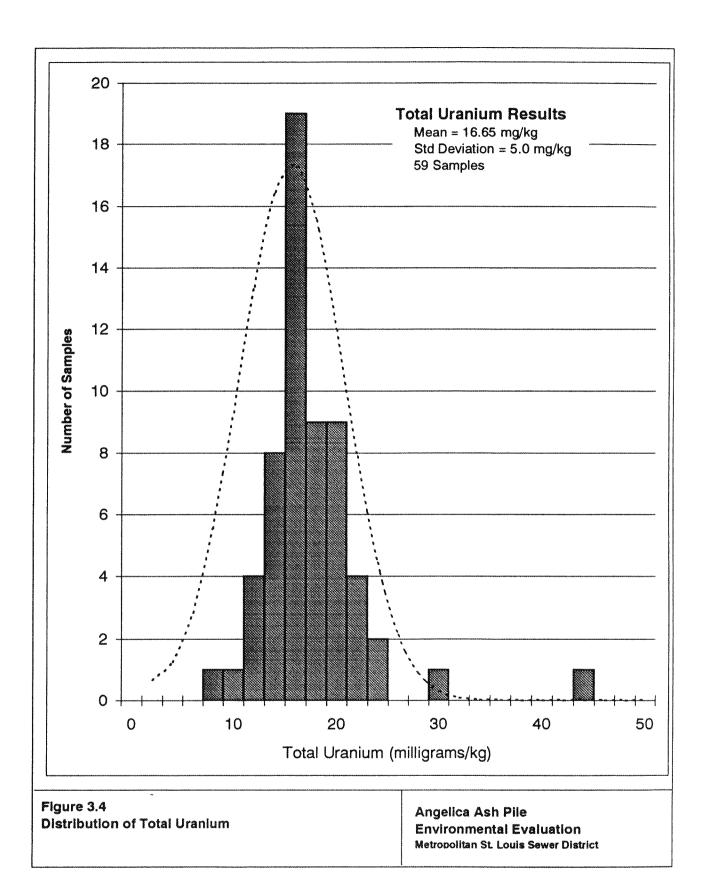
Conf. = ± 1.96 [standard deviation/(sample size)^{1/2}]

limit, the concentration of the sample for the purpose of the statistical analysis was assumed to equal the detection limit. This may skew the data toward higher concentrations than are actually present. Silver was detected at concentrations greater than the detection limit in only three samples. Therefore, the statistical analysis of silver concentrations should be considered an upper limit. The laboratory report for the total metals analysis is presented in Appendix C. Laboratory data for the total uranium analyses are included in Appendix B.

Mean concentrations for the metals analyzed varied widely. The most abundant metals were calcium, aluminum and iron. Coefficients of variation for the various metals ranged from very low (iron, aluminum, nickel and copper) to very high (uranium and silver). This indicates that the distribution of some metals is relatively homogeneous, whereas others are heterogeneous. The mean concentration of arsenic, barium, cadmium, chromium, lead, mercury and silver were greater in the solid (in parts per million) than the regulatory levels allowed in leachate for the toxicity characteristic (40 CFR 261). Metals in incinerator ash are typically in the oxide form, which has a very low solubility.

The mean arsenic concentration for the samples collected from the central portion of the ash pile was 16.9 milligrams per kilogram (mg/kg) compared to 11.9 mg/kg for the eastern portion of the pile. Vertical variation of arsenic concentrations appeared to be insignificant. Cadmium concentrations in the samples from the western portion of the ash pile were elevated in comparison to samples from the eastern portion of the pile. Mercury concentrations of samples from both the central and eastern portions of the ash pile were elevated with respect to the western portion of the pile. Barium, chromium and lead concentrations were relatively consistent across the pile. Cadmium concentrations in samples from the upper 4 feet of the pile averaged 13.5 mg/kg compared to an average concentration of 15.1 mg/kg for samples below 4 feet. Mercury concentrations in samples from depths below 6 feet were 0.22 mg/kg compared to 0.19 mg/kg for samples from above 6 feet.

A total of 60 samples were analyzed for total uranium content. Laboratory results are reported as concentrations in µg/kg. The reported concentrations can be converted into an activity (in pCi/g) by multiplying by 6.9 x 10⁻⁴. This conversion assumes a natural distribution of uranium isotopes (D. Sears, Quanterra Labs, written communication). Reported uranium concentrations had a very wide range. All of the uranium concentrations reported were in the range of 6,690 to 45,000 µg/kg except for the sample from SB-07-SS1-2-4, which had a reported concentration of 158,000 µg/kg (109 pCi/g). The distribution of total uranium concentrations is shown in Figure 3.4. The reliability of this value is considered suspect due to several factors. The presence of uranium at almost four times the concentration of the next lowest sample should correlate with higher gross alpha and gross beta activity. The gross alpha and gross beta activities measured for this sample were both very close to the mean values for the respective parameters, and thus are not considered to be elevated. Screening of the split spoon sample did not indicate an elevated level of radioactivity. Therefore this single value is treated as an outlier, and was not used in computing the statistics.



The mean uranium concentration of the samples analyzed from the ash pile was $16,700~\mu g/kg$ (12.2 pCi/g). The 95 percent confidence interval for the mean uranium concentration ranges from 15,400 to 17,900 $\mu g/kg$ (10.6 to 12.3 pCi/g). Variation of uranium concentration vertically through the pile was insignificant. The mean uranium concentration for samples from the central portion of the pile was 18,500 $\mu g/kg$ (12.5 pCi/g). The samples from the western portion of the pile had a mean uranium concentration of 15,100 $\mu g/kg$ (10.4 pCi/g).

The field geologist placed a thermoluminescent detector (TLD) on his collar throughout the field investigation. The TLD was used in this investigation due to the lack of information about possible personnel exposures. This TLD was intended to determine compliance with Nuclear Regulatory Commission guidelines concerning radiation exposure to site workers. The TLD was worn for a total of 5 days at the site. Analysis of the TLD indicated that the total dosage received was below detectable levels. The laboratory reports that the minimum detectable radiation level is 10 millirem. Because no exposure was detected, future work at the ash pile should not require monitoring with TLDs.

3.2.2 TCLP Metals

TCLP extraction and analysis was performed on 10 samples. These analyses were conducted to evaluate whether the ash might be considered to be a hazardous waste by exhibiting the toxicity characteristic. The samples for which the TCLP analyses were performed were selected based upon the results of the total metals analyses. Because total metals analyses were completed on the sample prior to selection for TCLP analysis, the holding times prior to extraction were exceeded. The holding time for extraction is based on analyses for parameters that are not as stable as metals. The exceeded extraction holding times are not likely to compromise the reliability of the results. Metals considered most likely to leach with concentrations exceeding the toxicity characteristic included lead, chromium and barium. Maximum reported total concentrations of these metals in mg/kg (equivalent to parts per million) are 35 to 100 times the regulatory level for the TCLP extract (in mg/L, also equivalent to parts per million). The samples submitted for analysis were the samples with the highest concentrations of lead, chromium and barium.

Table 3.7 lists the results of the TCLP analyses. Laboratory reports for the analyses are included as Appendix D. The analytical results for the TCLP analyses did not detect any of the eight metals for which RCRA guidelines have been established in the extraction fluids. These metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. This indicates that although the ash contains significant concentrations of these metals, they are in a form that is not readily leached from the ash.

3.3 VOLATILES / SEMIVOLATILES

Three samples were collected from the ash pile using a hand auger for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) analyses. These samples were collected to address concerns from MDNR personnel about vinyl chloride and phenols surviving the incineration process. Sample HA1-3-4 was collected adjacent

Table 3.7 Toxicity Characteristic Leaching Procedure (TCLP) Test Results Angelica Street Ash Pile October 31 - November 3, 1994

Measured	Detection	Regulatory			Sar	nple Identi	ification (B	oring#-T	op - Botto	m)		
Parameter	Limit 1	Level 1	SB11-4-6	SB13-8-10	SB14-0-2	SB15-2-4	SB22-6-7	SB17-2-4	SB17-6-8	SB28-2-4	SB31-6-8	SS32-6-8
									200000000000000000000000000000000000000			
Arsenic	2.0	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	0.80	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	0.020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.080	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	0.40	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.0002	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	0.040	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes: ND - Not Detected at the listed Detection Limit

(1) All reported values in milligrams/liter

to SB-09. Samples HA2-3-4 and HA3-3-4 were collected adjacent to boreholes SB-17 and SB-28, respectively. None of the VOC's that were analyzed were found at concentrations at or above the detection limits for any of the three samples. Table 3.8 lists several compounds that were detected in both the samples and the laboratory blank or were qualified as estimated concentrations. These reported concentrations ranged from equal to the detection limit to well below the detection limit.

Table 3.9 lists semivolatile target compounds that were detected in the analyses. All compounds that were detected were identified by the laboratory as estimated (J). The reported concentrations were below the reported detection limits for each compound. The laboratory reports for VOCs and SVOCs are presented in Appendix E. None of the compounds identified as a part of the VOC and SVOC analyses are considered significant due to the very low reported concentration and the qualification of the results.

3.4 DUPLICATE ANALYSIS

Five samples were submitted to the laboratory in duplicate as a quality control check of the analyses. The duplicate samples were given a sample identifier that was indistinguishable to the laboratory from other samples. All five pairs of duplicate samples were analyzed for gross alpha and gross beta activity. Three of the sample pairs were analyzed for total metals and total uranium. Analytical results for the gross alpha and gross beta analyses are presented in Table 3.10. The difference in the reported activity was less than one standard deviation for each duplicate pair except for sample SB04-SS2-6-7 and its duplicate SB04-SS3-9-10. The results for these samples differed by 15.6 pCi/g, compared to the standard deviation of 13.7 pCi/g.

Analytical results for the metals analyses for the duplicate pairs are presented in Table 3.11. In general, the difference between the reported concentration for the sample and its duplicate were less than one standard deviation. The reported total uranium concentrations for sample SB01-SS1-2-4 and its duplicate, SB01-SS4-14-16, differed by 7,500 $\mu g/kg$, compared to the standard deviation of 5,030 $\mu g/kg$. It is important to note that the relative percent difference between the samples was very high. Several metals had differences slightly exceeding one standard deviation for the other two duplicate pairs. These include iron, manganese and thallium for the duplicate pair from SB-08 and cobalt, nickel and sodium for the duplicate pair from SB-16. The relative difference for these analyses were much smaller than for the reported uranium results from the SB-01 duplicate pair. These results indicate that, in general, the accuracy and precision of the analyses was adequate.

3.5 ASHPILE VOLUME

The volume of the Angelica Street ash pile was estimated based on the thickness of ash identified in the boreholes and on the surveyed area of the pile. The measured thickness of the ash at each borehole is shown in Figure 3.5. One of the early assumptions about the pile was that it was constructed on a flat lot and would therefore have a relatively flat base. Data obtained from the boreholes indicated that this was not the case, but that the ash pile was placed on top of fill that was mounded on the site. The fill

Table 3.8
Volatile Organic Chemical Analysis
Angelica Street Ash Pile
October 31 - November 3,1994

Measured	Detection	Sample Identification			
Parameter ¹	Limit 1	HA1-3-4	HA2-3-4	HA3-3-4	
	**************************************	m-34 MARIONA AND AND AND AND AND AND AND AND AND A			
Chloroethane	8	8B	1B	8B	
Methylene Chloride	150	36BJ	38BJ	21BJ 3J	
Toluene	7	3J	3Ј		
1,1,2,2 Tetrachloroethane	8	ND	ND	1J	
4-Methyl-2-Pentanone	75	ND	ND	3J	

Notes: (1) Values reported in micrograms/kilogram dry weight

ND - Not Detected at the reported Detection Limits (detection limits vary slightly)

J - Compound detected at an estimated concentration below detection limit

B - Compound detected in both sample and laboratory blank

Table 3.9
Semivolatile Organic Chemical Analysis
Angelica Street Ash Pile
October 31 - November 3, 1994

Measured	Detection	Sample Identification			
Parameter ¹	Limit 1	HA1-3-4	HA2-3-4	HA3-3-4	
4-Methylphenol	490	140Ј	ND	ND	
Fluoranthene	490	75J	140J	110J	
Pyrene	490	68J	150J	110J	
Butylbenzylphthalate	490	230BJ	380BJ	240BJ	
bis(2-ethylhexyl)Phthalate	490	100J	130J	160J	
Phenanthrene	490	ND	74J	ND	
Benzo(a)Anthracene	490	ND	60J	ND	
Benzo(b)Fluoranthene	490	ND	140J	ND	
Benzo(a)Pyrene	490	ND	53J	ND	
4-Chloroaniline	490	ND	ND	350J	
Chrysene	490	ND	100J	78J	
				44744	

Notes: (1) Values reported in micrograms/kilogram dry weight

ND - Not Detected at the reported Detection Limits (detection limits vary slightly)

J - Compound detected at an estimated concentration below detection limit

B - Compound detected in both sample and laboratory blank

Table 3.10
Duplicate Gross Alpha and Gross Beta Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994

panadesans ini in experies associational antiporte in decigos operated copyrigation consistence decided	Measured Parameter			
Duplicate Pair	Gross Alpha 1	Gross Beta ¹		
SB01-2-4	50.0	50.4		
SB01-14-16	45.8	46.1		
	teologia anno de la companya de la c			
SB04-6-7	59.4	47.4		
SB04-9-10	75.0	47.7		
Consellación biolencia a consellativalistic da biolencia de consellación de co		10000022200000000000000000000000000000		
SB08-0-2	60.3	43.1		
SB08-16-18	69.4	38.7		
SB12-0-2	48.0	43.5		
SB12-10-12	43.8	49.3		

SB16-0-2	49.8	42.7		
SB16-10-12	58.2	37.8		

Notes: (1) All values reported in pCi/gram

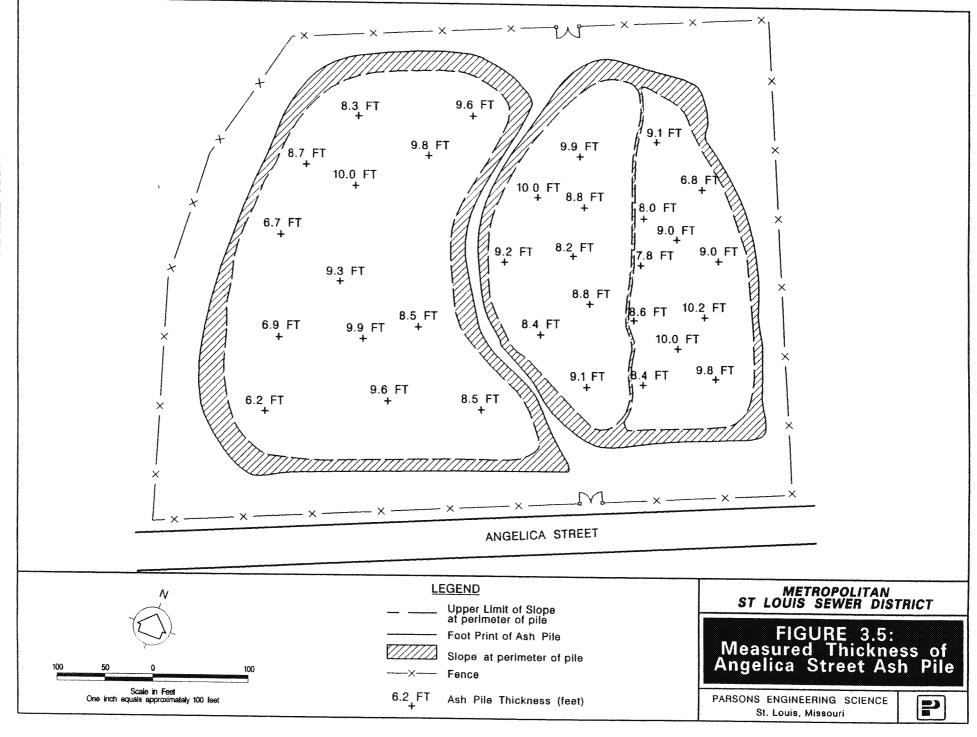
Table 3.11
Duplicate Metals Analyses
Angelica Street Ash Pile
October 31 - November 3, 1994

Measured	Duplicate Pairs						
Parameter 1	SB01-2-4	SB01-14-16	SB08-0-2	SB08-16-18	SB16-0-2	SB16-10-12	
Aluminum	27,500	27,400	25,500	28,700	26,200	26,600	
Antimony	19.0	ND	ND	17.0	17.3	ND	
Arsenic	13.6	17.0	15.1	15.7	11.1	12.0	
Barium	3,600	3,710	3,490	3,390	2,920	3,320	
Beryllium	2.6	2.5	2.4	2.6	2.4	2.3	
Cadmium	16.2	15.3	15.6	14.8	7.8	8.5	
Calcium	71,200	78,400	75,300	81,100	94,400	91,500	
Chromium	398	405	344	396	346	361	
Cobalt	16.8	17.2	16.4	17.9	16.2	14.0	
Copper	472	471	427	451	405	411	
Iron	41,300	41,600	33,900	43,200	38,000	36,600	
Lead	418	408	417	433	413	418	
Magnesium	5,830	6,200	5,890	6,600	6,280	6,110	
Manganese	542	549	528	588	596	576	
Mercury	0.15	0.17	0.19	0.17	ND	ND	
Nickel	104	108	97.2	110	130	106	
Potassium	4,170	4,350	4,180	4,870	3,590	3,980	
Selenium	ND	ND	0.55	ND	1.2	1.1	
Silver	ND	ND	ND	ND	ND	ND	
Sodium	2,450	2,310	2,060	2,120	1,850	2,210	
Thallium	0.53	0.52	0.66	0.42	ND	ND	
Vanadium	118	109	102	105	101	87.0	
Zinc	2,360	2,530	2,410	2,470	2,350	2,560	
Total Uranium ²	15,800	8,300	16,500	16,100	16,000	14,200	

Notes: (1) All metals values reported in milligrams per kilogram dry weight

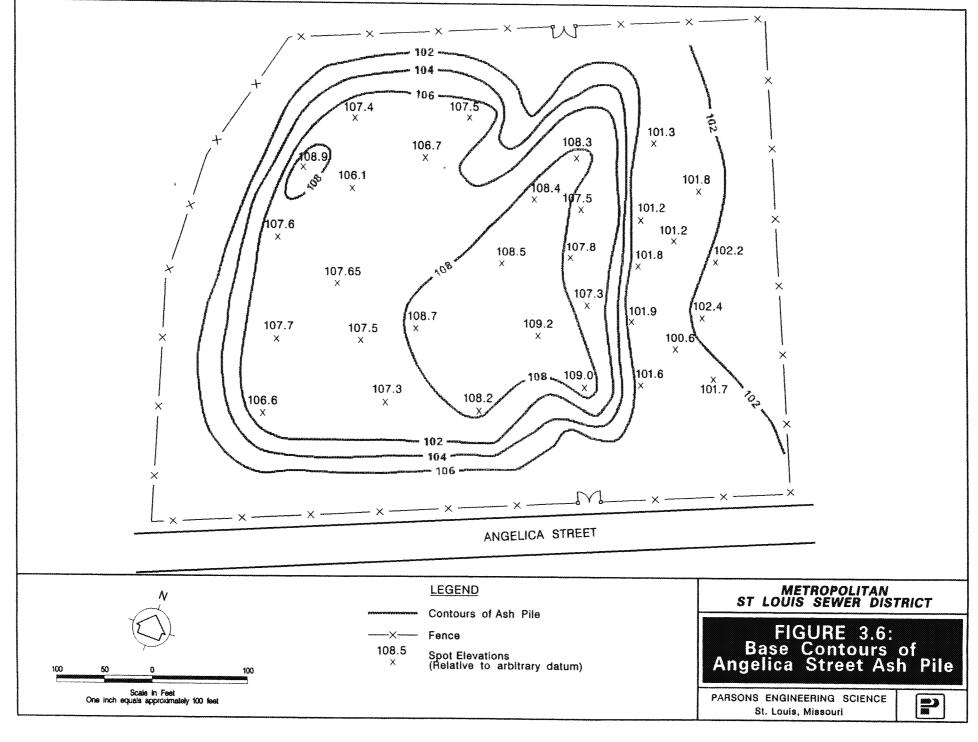
(2) Values reported in micrograms/kilogram dry weight

ND - Not Detectable



appeared to contain normal construction debris, coal fragments and soil. Figure 3.6 shows the elevation of the bottom of the ash pile. There is an obvious mound located near the center of the pile. Observations during the installation of the boreholes indicate that the ramp that bisects the ash pile contains no ash, but is basically the top of the mound shown in Figure 3.6. One result of this finding is that the estimated volume of the ash in the pile is less than was initially anticipated.

Theissian polygons were constructed on the surveyed map of the borehole locations. The area of each polygon was measured with a planimater. The area of the polygon was multiplied by the measured thickness of the ash to determine the volume associated with each polygon. The volume of each polygon was added to determine the volume of the ash pile. The area of the edge polygons was measured in two ways. The first was to consider the polygon to extend to the edge of the ash pile footprint. This will tend to slightly overestimate the ash volume because the slope at the edge of the pile is not accounted for. The ash pile volume estimated using these measurements should be considered to be an upper limit. The volume of the ash in the pile not taking the edge slope into consideration is estimated to be 73,266 cubic yards. A second way in which the area of the edge polygons were measured was to measure to the estimated midpoint of the slope. This method considers the thinning of the pile at the edge, and may be a more accurate estimation of the volume of the ash pile. The volume estimated from the measurements to the midpoint of the edge slope is 60,440 cubic yards. Initial estimates of the ash volume were approximately 90,000 cubic yards, based on the assumption of a flat bottom. The pile also contains approximately 16,000 yards of fill. The fill appeared to be comprised of normal construction debris, soil and coal fragments. Verification of the content of the fill is recommended during relocation of the pile.



4. REGULATORY ANALYSIS

4.1 INTRODUCTION

MSD wishes to dispose of the ash at the Prospect Hill Landfill. The purpose of this regulatory analysis is to evaluate any regulations that would prevent disposal at this facility. The Prospect Hill Landfill is permitted for the disposal of municipal sewage sludge incinerator ash and construction debris not containing wood or metal under rules of the Missouri Department of Natural Resources (MDNR), Solid Waste Management Program. The MDNR was contacted to determine if there are any provisions which would prohibit disposal of the ash from the Angelica Street site. Two issues of concern identified by the Solid Waste Management Program were the radioactivity and the possibility that the material would be classified as a hazardous waste under the Resource Conservation and Recovery Act (S. Jones, MDNR, Solid Waste Management Program, pers. commun., 1994).

4.2 METALS

Disposal of the ash in the Angelica Street pile could potentially be regulated under the Resource Conservation and Recovery Act (RCRA). The ash would be considered a hazardous waste if it exhibits ignitability, corrosivity, reactivity or toxicity characteristics. The fact that the sludge was incinerated to generate the ash indicates that the ash is not ignitable or reactive. If the ash were corrosive, the TCLP results would indicate leaching. Sampling of the ash as a part of this investigation was intended to evaluate whether the metals content of the ash would result in the ash meeting the definition of toxicity. The definition of toxicity is based on concentrations of specific chemicals in leachate obtained from the sample. The chemical list is given in 40 CFR 261. Based upon the concentration of total metals in the ash samples, TCLP analyses were conducted to evaluate whether the leachate would contain concentrations that are above the thresholds given in 40 CFR 261. The results of the TCLP analysis indicated that the ash does not exceed any of the toxicity thresholds for metals.

4.3 ORGANIC COMPOUNDS

Discussions with the MDNR Hazardous Waste Enforcement Unit indicated a concern that phenols or vinyl chloride may have survived the incineration process (T. Judge, MDNR, Hazardous Waste Enforcement Unit, pers. commun., 1994). Three samples were collected and analyzed for volatile organic compounds and semivolatile organic compounds. Volatile or semi-volatile organic compounds were not detected at concentrations greater than the detection limit. Therefore, the ash does not meet the definition of a hazardous waste with respect to RCRA.

4.4 RADIOACTIVITY

Guidelines or regulations do not exist which apply to radioactivity in incinerator ash from municipal sewage sludge. Reports that the EPA has proposed a standard could not be verified. The EPA, NRC and the Water Environment Federation are working on drafting guidance for radioactivity in wastewater solids (G. Cooper, EPA, Existing Chemicals Branch, pers. commun., 1995). The first draft of the proposed guidance is anticipated in July 1995.

The EPA has prepared a working draft of a proposed Radiation Site Cleanup Regulation. Review of this draft indicates that the EPA will base cleanup levels on site-specific risk based analysis rather than specific activity or concentration based guidelines. The working draft proposes cleanup to a level that would limit dosages to any member of the public to 15 millirem per year from all potential pathways under a residential land use scenario. This generally corresponds to a risk level of 1 x 10⁻⁴. How this standard would relate to the ash at the Angelica Street site is not known, as risk assessment was beyond the scope of this investigation.

The NRC has developed proposed guidelines for the decommissioning of licensed sites. The guidelines are different if the source is natural uranium than if the source is enriched uranium. For a natural uranium source the criteria for unrestricted release of the site is 10 pCi/g total uranium. For an enriched uranium source, the criteria is 30 pCi/g. These values are above background (R. Glinski, NRC, Decommissioning Section, pers. commun., 1995). Typical background concentrations range from 0.5 to 2.5 pCi/g. Based on this information, the ash in the Angelica Street pile would be very close to this guideline. It is important to note that the Angelica Street site has never been an NRC licensed facility. After considering the results of this investigation, Mr. Glinski notified Parsons Engineering Science that the radiation levels that were detected were below the Decommissioning Section's level of concern.

Given the lack of concentration or activity based guidelines, it is important to evaluate the cleanup criteria established or proposed for cleanups of nearby sites. The Formerly Used Site Remedial Action Program (FUSRAP) is proposing to clean up a number of sites in the metropolitan St. Louis area that contain contaminants from the processing of nuclear materials. Proposed cleanup criteria for this work are 100 pCi/g total uranium, and 50 pCi/g U²³⁸ (compared to approximately 12 pCi/g total uranium from the Angelica Street site). These action levels will have to be approved by the EPA. The MDNR has been given the opportunity to comment on the cleanup levels, but has no regulatory authority. These cleanup levels were selected based on risk analysis, and are considered to be protective of the public health. Every effort will be made to leave soils containing levels of radioactivity above background but below the action levels in place (D. Addler, DOE, FUSRAP project, pers. commun., 1995).

Cleanup criteria for uranium at the Weldon Springs site are based on a site-specific risk assessment. The action level for uranium (specifically U²³⁸) is 120 pCi/g. Background concentrations for uranium at the Weldon Springs site are approximately 1.2 pCi/g. Cleanup criteria for radium and thorium are based upon standards included in the

Uranium and Thorium Mill Tailings rule, 40 CFR 192. The standard for both radium and thorium is 5 pCi/g above background. Considering backgrounds concentration of 1.5 pCi/g for both radium and thorium, the cleanup criteria is 6.5 pCi/g (J. Bennett, MK Ferguson, Documentation Group, pers. commun., 1995). Reported uranium activities for the samples from the Angelica Street site averaged 12.2 pCi/g, which is considerably lower than the risk-based cleanup standards developed for the two large scale cleanups being conducted in the area.

4.5 CONCLUSIONS

The Resource Conservation and Recovery Act (RCRA) establishes regulatory guidelines for the definition of a hazardous waste. The results of this investigation indicate that the ash in the Angelica Street pile is not a hazardous waste with respect to RCRA. Metals were detected in the ash as expected for residues from the incineration process. The metals were in an oxidized state that was not mobile.

There are no regulations that directly regulate the disposal of incinerator ash containing radioactive isotopes. The ash from the Angelica Street pile lower levels of radioactivity than proposed guidelines for the decommissioning of nuclear processing facilities licensed by the NRC. The ash is well below the cleanup criteria proposed for the FUSRAP cleanup. The ash also meets cleanup standards established for the Weldon Springs site. The cleanup criteria for both of these cleanups are based on site specific risk assessments.

The review of regulatory requirements indicates that there are no known regulations that would prevent disposal of the ash in the Prospect Hill Landfill.

5. ASH REMOVAL

Analyses of samples from the Angelica Street ash pile indicate that the samples contain slightly more radioactivity than the ash currently being generated by the incinerator at the Bissell Point Treatment Plant. The gross alpha activity of the ash is approximately two times the level considered to be background at the Weldon Springs site. Although the radioactivity is slightly elevated, it is not at a level that would require the ash to be handled as a radioactive material. Analysis of the ash for the toxicity characteristic indicated that metals were not likely to leach from the ash. In order to allow the Angelica Street property to be put to different uses, it is recommended that the ash be moved to the Metropolitan St. Louis Sewer District's Prospect Hill Ash Landfill.

Transferring the ash from the Angelica Street pile to the Prospect Hill Landfill should be conducted in a similar manner as the transfer of the ash currently in the ash ponds. Front-end loaders are used to place the ash from the ponds into dump trucks. When full, the load in the truck is covered and the ash is hauled to the Prospect Hill Landfill. At the landfill, the ash is dumped. When the ash reaches the desired thickness, the cover of the landfill is installed. The additional risk of moving the Angelica Street pile compared to ash from the Bissell Point ash ponds is minimal due to the only slight increase in radioactivity.

Because the ash is being removed from a topographically high area rather than the depression of the ash pond, efforts should be made to minimize the potential for the ash to blow away. These efforts should include expedited transfer of the ash and possibly wetting down the ash surface to minimize blowing. Site workers should be prepared to use air purifying respirators with particulate cartridges if blowing ash becomes a problem (this recommendation should be applied to removal of the ash from the ponds also). If blowing of the load in the dump truck is noted in transit to the landfill, a water spray can be set up to wet the upper surface of the ash prior to the truck leaving the ash pile. Personnel at the landfill should watch for signs that the ash is blowing excessively prior to installation of the cover. If excessive blowing is noted, the surface should be wetted or a thin covering of soil should be placed on the ash.

The need for thermoluminescent detectors (TLDs) during the excavation of the ash was not indicated by the data collected as a part of this investigation.

6. SUMMARY AND CONCLUSIONS

The ash pile on the Metropolitan St. Louis Sewer District's Angelica Street property was constructed in the early 1980's. The ash in the pile was generated early in the operation of the Bissell Point Treatment Plant. Since the middle 1980's, ash from the Bissell Point Treatment Plant has been disposed of at the Prospect Hill Landfill, which is operated by the Metropolitan Sewer District (MSD) for this purpose. The character of the ash at the Angelica Street location may be different from the ash that has been disposed of at the Prospect Hill Landfill. Metals pretreatment processes have been instituted to reduce the metals content of the wastewater (and the resulting ash) and the potential for release of wastewater that could potentially contain radionuclides has decreased since the ash in the Angelica Street pile was generated.

MSD would like to move the ash at the Angelica Street site to the Prospect Hill Landfill. In order to confirm that this is an appropriate disposal option, the characteristics of the ash needed to be established. The concentration of total metals and the level of radioactivity were determined by sampling and analysis of the Angelica Street ash pile. A total of 78 samples were analyzed for gross alpha activity and gross beta activity. Total metals analyses were conducted on 60 samples. The samples submitted for analysis were collected from 32 boreholes distributed throughout the ash pile to assess variation of the characteristics of the ash across the pile. Samples were also collected from a range of depths within the pile so that vertical variations in metals content or level of radioactivity could be assessed.

The total metals analyses indicated that the ash could exhibit the toxicity characteristic (with respect to 40 CFR 261) if the metals were leachable. Ten of the ash samples with the highest total metals concentrations were analyzed using the TCLP procedure to evaluate whether the material exhibited the toxicity characteristic. None of the leachate generated from the TCLP procedure contained detectable concentrations of metals. This indicates that the ash is not a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA). Therefore metals content is not a factor in the selection of a disposal alternative.

The laboratory results for gross alpha and gross beta activity indicated that the ash pile contained slightly elevated levels of radioactivity. The average gross alpha activity was 51 pCi/g. This appears to be about two times the gross alpha activity that is considered to be background at the Weldon Springs Site. Three samples of ash that were recently generated indicated an average gross alpha activity of 27 pCi/g, which is in the same range as the reported background concentration. The small standard deviation and relatively small range of reported gross alpha activities indicates that the alpha activity in the ash pile is relatively uniform. Gross beta activity in the ash pile averaged 43 pCi/g. The background ash samples averaged 31 pCi/g. Thus, the beta activity in the ash pile is

only slightly greater than the activity in the recently produced ash. The range and standard deviation was smaller for gross beta analyses than for gross alpha analyses. This confirms that the level of radioactivity in the ash pile is relatively homogenous.

Uranium concentrations reported for the samples from the ash pile varied over a wider range than other parameters, particularly gross alpha and gross beta. The average concentration reported was 16,000 μg/kg. This reported average excludes one sample which appeared to be an anomalous report. The reported uranium concentration was considered anomalous due to the fact that there was no indication of elevated radioactivity from the screening of the sample with a radiation detector and that the gross alpha activity and the gross beta activity were not elevated. In terms of activity, the uranium content averaged 11.5 pCi/g. Measurements of radon emanating from the ash pile indicated that radon concentrations confined at the surface of the ash pile averaged approximately ten times the average of the two background samples. The average radon concentration on the ash pile was approximately twice the concentration of a background sample reported in the Lemay area of south county. Two factors that contribute to the elevated radon concentrations on the ash pile are the slightly elevated radioactivity in the ash pile and the high permeability of the ash.

Definitive standards for disposal of materials containing low levels of radioactivity have not been established. One problem with developing a guideline is that all materials contain some natural radioactivity. Background levels of radioactivity vary widely across the country. Proposed cleanup standards for the Formerly Used Site Remediation Action Program (FUSRAP) sites in the metropolitan St. Louis area are 100 pCi/g total uranium and 50 pCi/g U²³⁸. The reported uranium activity of the samples from the ash pile average an order of magnitude below the proposed FUSRAP action level.

Removal of the ash from the Angelica Street site to the MSD's Prospect Hill Landfill is reasonable disposal alternative since the ash is not a hazardous waste and since the radioactivity level is only slightly elevated above background. The low levels of radioactivity in the ash will not require special measures during removal and disposal in the Prospect Hill Landfill. Dust control measures may be needed to control blowing ash during loading due to the higher topographic position of the Angelica Street pile.

7. REFERENCES

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APPENDIX A BORING LOGS

APPENDIX B LABORATORY REPORTS FOR RADIOLOGICAL ANALYSES

APPENDIX C LABORATORY REPORTS FOR TOTAL METALS ANALYSES

APPENDIX D LABORATORY REPORTS FOR TCLP ANALYSES

APPENDIX E LABORATORY REPORTS FOR ORGANICS ANALYSES

Draft Environmental Evaluation Angelica Street Ash Pile Appendicies A - E

Prepared For:

Metropolitan St. Louis Sewer District 10 East Grand Avenue St. Louis, Missouri 63147

February 1995

Submitted by:

PARSONS ENGINEERING SCIENCE, INC. Suite 330 400 Woods Mill Road South St. Louis, Missouri 63017-3427

REPORT.DOC

APPENDIX A BORING LOGS

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	SS1 2-4 SS4	1,1, 2,3	20						40% recovery		
5-	14-16 SS2 4-6	3,3, 4,5	22						20% recovery		
-	SS3 6-8	3,3, 3,5	18						20% recovery		
10-		5,12, 12,13	20				FILL at 8. GRAVEL, c brown.	5 ft., SILT, little SAND (coarse) and compact, non-cohesive, moist, dark	80% recovery		
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-	SSI 2-4	1,1,	17						10% recovery		
5—		1,1, 2,2	22						25% recovery -		
-	SS2 6-8	1,2, 2,4	20						20% recovery		
-	SS3 8-9.5	2,3, 3,5	18						70% recovery		
10-		6,8, 8,8	18				FILL at 9.6 damp, light	oft. SAND, some SILT, compact, reddish brown.	80% recovery		
1					23		Total Dept	h 12.0 feet.	_		
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		***************************************	***************************************	· · · · · · · · · · · · · · · · · · ·							
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	-		Property						FOR CONTRACTOR OF CONTRACTOR O		
	Markedistrates										
L		<u> </u>									

8	Brso Louis,			gineering	Sc	ier	ice	Log of Borin	g SB-03	
PRO	JECT:	MSL) Ange	elica St. Ash Pile	mananimadeareen)	riktos utuonean na	econtidonem en cocumento economico en	LOCATION: Between C-2 and C	-3	
PRO	JECT I	NO.:	7265	89.01000	***************************************	da Tiorro aceanan	THE THE CANADA CONTRACTOR OF THE PARTY OF TH	SURFACE ELEVATION: 112.77 ft.		
DAT	E STA	RTEC): <i>31</i>	October 1994		************************	t de la companya de l	INITIAL WATER LEVEL:		
DAT	E FIN	ISHE	D: <i>31</i>	l October 1994	***************************************		No. of the state o	STATIC WATER LEVEL:		
DRI	LLING	METH	IOD:	Hollow Stem Aug	ger/S	plit-	Spoon	TOTAL DEPTH: 8.0 Feet		
DRI	LLING	COMP	ANY:	Burlington Envi	ironm	ental		GEOLOGIST: Lee Gorday		
		-	Rad	d (microRem/Hr)	စ္က	0				
DEPTH feet	SAMPLE NO.	BLOWS/8 IN	VALUES	PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS	
	SS1 2-4	1,1, 4,4 2,1, 1,1	17				ASH, loose damp.	e, SILT and SAND (fine), dark gray,	10% recovery spoons hammered 10% recovery	
5-	SS2 4-6	2,2, 3,5	14				Interlayer	ed ASH and FILL.	60% recovery -	
-		3,6, 7,9	14				damp, yello	2 ft. FILL, SILT and SAND, compact, owish brown. th 8.0 feet.	80% recovery -	
10-			***************************************						-	
			THE PARTY OF THE P							
15- - -	et e de la constitución de la co								-	
20-									-	
					en e				-	
25-	***************************************				ergelegende genhalanssammenssensprompsprompspromise stakeneen					

Pa	arso	ns	Eng	gineering	Sc	ien	се	Log of Boring SB-04			
<u></u>	Louis	Militario de concesso por conce	***************************************	PERCENDERMANIAN NA PROPERTY DE L'ARCHIO DE	1988 double de La constitución d			209 0. 20	.g 00 0 1		
8		AND DESCRIPTION OF RESTREES		elica St. Ash Pile	2			LOCATION: West of D-3			
-		-	***	89.01000		***********		SURFACE ELEVATION: 114.64	ft. MSL		
-	****			October 1994 1 October 1994		X-FERRICA WALL		INITIAL WATER LEVEL:			
-			***************************************	Hollow Stem Au	ner/S	nlit-9	Socoo	STATIC WATER LEVEL: TOTAL DEPTH: 8.0 Feet			
				Burlington Env				GEOLOGIST: Lee Gorday			
				d (microRem/Hr)		T		r dedecords. Eee borday			
DEРТН feet	SAMPLE NO.	BLOWS/6 IN	ALUES	PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
_	ACCOUNTS OF THE PARTY OF THE PA	1,2, 2,2	13	0 30		32	ASH, SILT to dark br	and SAND, loose, damp, dark gray own.	10% recovery, spoons hammered		
-	SS1 2-4	2,2, 2,4	22						20% recovery		
5-		2,2, 3,5	18						20% recovery		
-	SS2 6-7 SS3 9-10	1,1, 13,15	24		<u> </u>		dark browi	9 ft., SILT, some SAND, medium to n, compact, damp. th 8.0 feet.	60% recovery -		
10-	į		***************************************						-		
-											
15-											
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20-			- Andreas - Andr						-		
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25-		Andrew State of the State of th							_		
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E .	arso Louis			gineering	Sc	ier	ice	Log of Borir	ng SB-05		
	05555555555555555555555555555555555555	***************************************	SANSON NO CONTRACTOR OF THE PARTY OF THE PAR	elica St. Ash Pile	elementenenses)	echocus confidence	pagescopasseon de saparantes de casa contratores	LOCATION: Near D-5			
				89.01000	~~~~		**************************************	SURFACE ELEVATION: 117.19 ft, MSL			
-	****	-	***************************************	October 1994	Mary Laboratoria	**************************************	onarouni stanioa manifestati a manifestati sona	INITIAL WATER LEVEL:			
}				1 October 1994	************	***************************************		STATIC WATER LEVEL:			
-	**	****		Hollow Stem Aug	ner/S	plit-S	Spoon	TOTAL DEPTH: 10.0 Feet			
6			THE OWNER OF THE OWNER,	Burlington Envi			********************	GEOLOGIST: Lee Gorday			
			1	d (microRem/Hr)	T	<u> </u>					
DEPTH feet	SAMPLE NO.	BLOWS/8 IN	VALUES	PROFILE 0 50	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
-			22				ASH, SILT to dark br	and SAND, loose, damp, dark gray own.	O recovery, sample grabbed from cuttings		
-	SS1 2-4		31						25% recovery, pushed all spoons		
5-			20						10% recovery		
-	SS2 6-8		27						20% recovery		
- 10-							FILL at 8. yellowish t moist.	5 ft., SILT, and SAND, compact, brown and reddish brown in pods,			
							Total Depi	h 10.0 feet.			
15-											
20-									-		
		-									
25-	***	- Valenti de la companya de la compa									

1				gineering Sc	ien	се	Log of Boring	g SB-06			
	Louis	-	************		ara mandalan da						
Sammer		***************************************		elica St. Ash Pile		Wilder Company of the	LOCATION: Near E-4				
	***************************************	***********		89.01000 November 1994			SURFACE ELEVATION: 116.95 ft. MSL				
}	***************************************	THE REAL PROPERTY.		November 1994 November 1994		***************************************	INITIAL WATER LEVEL:				
-	****			Hollow Stem Auger/S	nlit-S	Socon	STATIC WATER LEVEL: TOTAL DEPTH: 26.0 Feet				
-	******		***************************************	Burlington Environme	***************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	GEOLOGIST: Lee Gorday	THE RESERVE OF THE PROPERTY OF	\dashv		
 	T	1	NAME OF TAXABLE PARTY.	d (mioroDom/Us)					ᅱ		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE 0 50	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS	HANNE CHANGE CONTRACTOR CONTRACTO		
-			23			ASH, SILT gray,	and SAND (fine), loose, damp, dark	40% recovery, spoons pushed to a depth of 10 feet	7		
-	SS1 2-4		14					20% recovery	1		
5-			17					80% recovery	1		
-	SS2 6-8		19					40% recovery	——————————————————————————————————————		
-			19					100% recovery	-		
10-		7,14, 17,19	20			dark grayis FILL, SILT	3 ft., SILT, some SAND, compact, sh brown. , some SAND, limonite staining, rk brown, compact, damp.	40% recovery, spoons hammered below 10 feet			
	SS3	5,6, 7,7	16			SAND and with SILT.	SILT, compact, brown, interbedded uniform light gray.	100% recovery	1		
15-	13-14	5,6, 7,7	21				orm light gray, moderately compact,	100% recovery	1		
-		5,7, 11,12	21				D and GRAVEL, very dark gray to ganese staining, rock fragments.	50% recovery			
		2,3, 4,5	19					80% recovery	-		
20-		4,6, 5,7	14			FILL SILT	, compact, uniform olive color, damp.	70% recovery	1		
		15,7, 8,9				, 9261		no recovery	cochemicantenantenana		
25-		3,6, 3,6	14			FILL, COAL (coarse), n	. and WOOD fragments, some SAND noist.				
	TO STATE OF THE PARTY OF THE PA	WHEN THE PROPERTY OF THE PROPE				Total Dept	h 26.0 feet.		homeonhome		
_				NEW PROPERTY OF THE PROPERTY O		Note in the control of the control o					

8	Brso Louis			gineering	Sc	ien	ice	Log of Boring SB-07				
PRO	JECT:	MSL	Ang	elica St. Ash Pile	NOON NEWSCOTTONICS	000000000000000000000000000000000000000	CONTRACTOR	LOCATION: Between E-3 and F	-3			
PRO	JECT	NO.:	7265	89.01000			MINOR CONTROL OF THE STATE OF T	SURFACE ELEVATION: 114.33 ft. MSL				
DAT	ESTA	RTEC	: 11	<i>November 1994</i>				INITIAL WATER LEVEL:				
DAT	EFIN	ISHE	D: 1	November 1994				STATIC WATER LEVEL:				
DRI	LLING	METH	OD:	Hollow Stem Aug	ier/S	olit-S	Spoon	TOTAL DEPTH: 18.0 Feet				
ORI	LLING	COMP	ANY:	Burlington Envi	ronme	ental		GEOLOGIST: Lee Gorday				
DEРТН feet	SAMPLE NO.	BLOWS/6 IN	VALUES	d (microRem/Hr) PROFILE	GRAPHIC LOG	L CLASS		GEOLOGIC DESCRIPTION	REMARKS			
DEI fee	SA	BLC	VAL.	0 50	GRA	SOIL						
-			21				ASH, SILT	, loose, dark gray, damp	50% recovery, spoons pushed to a depth of 8 feet			
-	SS1 2-4		17						40% recovery			
5-	SS2 4-6		15						20% recovery			
			13				FILL at 6.	7 ft., SILT, some SAND, compact, erate brown.	30% recovery			
-		30,31, 32,33	10				33mp, m33	orace grown.	80% recovery, spoons hammered below 8 feet			
10-		8,12, 10,10	12				moderate t	, some SAND, compact, damp, prown, one zone of SILT, light gray, m texture and color	40% recovery			
1		3,4, 5,7	11					D and SILT, well graded, olive. , dark gray, damp, moderately	30% recovery			
15—		6,7, 7,5	15		000		FILL, SANO	D and GRAVEL (fine), black, organic, d with SAND and SILT, olive brown.	20% recovery			
		3,3, 4,7	14				FILL, SAND fragments.	3 and GRAVEL, organic, with brick	25% recovery -			
					o · ːːɑ							
20-			en e									
	e prijesta de la constancia de la consta	-										
		The second secon	TARREST SALAMENT SALA						1			
25—	ļ				1	- International						
	San Carlos	*************************										
	- And the second											
&		minimum emercial	***************************************		new water sections	POR DESCRIPTION AND ADDRESS OF THE PERSON NAMED IN COLUMN 1 AND AD		CONTROL CONTRO	0.201.011			

i	arso Louis,		-	jineering	Sc	ien	се	Log of Boring SB-08			
PRO	JECT:	MSL) Ange	lica St. Ash Pile			na anti-commence de commence de la c	LOCATION: Between F-3 and G-	-4		
-		THE REAL PROPERTY.		39.01000		**************************************		SURFACE ELEVATION: 117.58 ft.			
DAT	E STA	RTEC	: 1N	ovember 1994				INITIAL WATER LEVEL:			
DAT	E FIN	SHE	D: 1 N	lovember 1994	***************************************			STATIC WATER LEVEL:			
DRI	LLING	METH	OD:	Hollow Stem Aug	ger/S	plit-S	Spoon	TOTAL DEPTH: 16.0 Feet			
-	THE PERSON NAMED IN COLUMN			Burlington Envi				GEOLOGIST: Lee Gorday			
			Rad	(microRem/Hr)	T ,						
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE 50	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
	SS1 0-2		12				ASH, SILT	, dark gray, loose, damp.	60% recovery, spoons		
5-	SS4 16-18		11						pushed to depth of 10 feet 30% recovery hard zone at 2.8 feet 10% recovery		
	SS2 6-8		14 🗷						40% recovery -		
10-		3 1	14				FILL at 8. reddish br	7 ft., SAND, some SILT, compact own.	60% recovery - 30% recovery, spoons		
		3,4, 6,5	٦						hammered below 10 feet		
-		1,3, 4,5	17				FILL, SILT	, some SAND, dark reddish brown.	25% recovery		
15-		3,3, 3,4	13				FILL, SILT and light o Depth 16.0	, some SAND, dark reddish brown gray wet, rock in sampler shoe. Total feet.	20% recovery — — —		
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	Arso Louis,			gineering	Sc	ien	ice	Log of Boring SB-09			
PRO	JECT:	MSE	Ang	elica St. Ash Pile		MINORIAL PROPERTY.	A CONTRACTOR DE LE COMPANION DE CONTRACTOR D	LOCATION: Between F-4 and	F-5		
PRO	JECT	NO.:	7265	89.01000	THE MYTHOLIC MANAGEMENT OF		***************************************	SURFACE ELEVATION: 116.14	ft. MSL		
DAT	E STA	RTED	: 11	November 1994			MERCHINA AND AND AND AND AND AND AND AND AND A	INITIAL WATER LEVEL:			
DAT	EFIN	ISHED): 1/	November 1994	······································	***************************************		STATIC WATER LEVEL:			
DRI	LLING	METH	OD:	Hollow Stem Aug	er/S	olit-S	Spoon	TOTAL DEPTH: 16.0 Feet			
DRI	LLING	COMP	ANY:	Burlington Envi	ronme	ental		GEOLOGIST: Lee Gorday			
TH.	SAMPLE NO.	BLOWS/6 IN	Т	d (microRem/Hr)	GRAPHIC LOG	CLASS		GEOLOGIC DESCRIPTION	REMARKS		
DEPTH feet	SAME	0,0	VALUES		RAP	SOIL	Quantitative				
-	SS1 0-2	w	12	0 50		U)	ASH, SILT	, medium gray, damp, loose.	30% recovery, spoons pushed to 10 feet		
			15						70% recovery		
5-			15						10% recovery –		
	SS2 6-8		12						80% recovery -		
10			13						60% recovery		
10-		7,30, 35,12	13				FILL at 10. fragments,	0 ft., SILT and SAND, some rock moderate reddish brown.	60% recovery, spoons hammered below 10 feet		
		7,10, 35,12	15				FILL, SANI yellowish b) and SILT, stratified on mm scale, rown.	50% recovery		
15-		7,10, 19,21	18				FILL, SANI texture, pa	D, some SILT, salt and pepper ale brown and dark yellowish brown.	80% recovery		
7	A PARTIE DE LA CONTRACTOR DE LA CONTRACT	eri-response dessentation property all the			7.7		Total Dept	h 16.0 feet.			
20-											
						ny in the second			4		
25—	Section of the latest		**************************************						-		
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	Miner Property and	***************************************							-		

8	arso Louis			gineering	Sc	ien	се	Log of Bori	ng SB-10			
PRO	JECT:	MSL) Ang	elica St. Ash Pile	• • • • • • • • • • • • • • • • • • •	BUSINESS STREET	till elleret leikenderet ser ververe en	LOCATION: Between G-4 and	H-5			
PRO	JECT	NO.:	7265	89.01000	-	***************************************		SURFACE ELEVATION: 115.70 ft. MSL				
DAT	E STA	ARTEC): <i>1</i>	November 1994	************************			INITIAL WATER LEVEL:				
DAT	EFIN	ISHE	D: 11	November 1994	· · · · · · · · · · · · · · · · · · ·			STATIC WATER LEVEL:				
DRI	LLING	METH	IOD:	Hollow Stem Aug	ger/S	plit-S	Spoon	TOTAL DEPTH: 16.0 Feet				
DRI	LLING	СОМР	ANY:	Burlington Env	ironme	ental	Art Helden Anner an ann an Arthur State Ann an Air Ann	GEOLOGIST: Lee Gorday				
			Rad	d (microRem/Hr)			NAMES AND ASSESSMENT OF THE PROPERTY OF THE PR					
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS			
			13				ASH, SILT	, lose, dark gray, damp, uniform.	60% recovery, spoons pushed to 10 feet			
	SS1 2-4		20						60% recovery			
5-			18						50% recovery -			
	SS2 6-8		13						60% recovery -			
			17				FILL at 8 slightly lam	3 ft., SILT, some SAND (fine), ninated, reddish brown.	50% recovery -			
10-		8,10, 20,15	12				FILL, SANE brown, mois), some SILT, well graded, reddish st.	90% recovery, spoons hammered below 10 feet			
1		5,8, 14,12	20				FILL, SANE reddish bro), some SILT, compact, stratified, own.	60% recovery			
15-		10,12, 14,12	14	***********			FILL, SANO	D and SILT, COAL fragments, dark	70% recovery -			
					/2/2 		gray, comp	h 16.0 feet.				
4	THE STATE OF THE S		***************************************									
20-									_			
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25-	and the second s					***************************************						
-	THE PERSON NAMED AND POST OF THE PERSON NAMED	MANAGEMENT OF THE PROPERTY OF	AND DESCRIPTION OF THE PERSONS ASSESSMENT OF			S CONTRACTOR SALAR						
		Approximate and a second a second and a second a second and a second a										

	Brso Louis			gineering	Sc	ien	CE	Log of Boring SB-11			
PRO	JECT:	MSI) Ang	elica St. Ash Pile		ts:0450400115000	abbannide e dag chuirt a cheann ann an ann ann ann ann ann ann ann	LOCATION: Between G-5 and C	5-8		
PRO	JECT	NO.:	7265	89.01000	-trivana paramanana paga	~~~		SURFACE ELEVATION: 116.49 f	t. MSL		
DAT	ESTA	RTEC): <i>2</i>	November 1994		************		INITIAL WATER LEVEL:			
DAT	EFIN	ISHE	D: 2	November 1994				STATIC WATER LEVEL:			
DRI	LLING	METH	10D:	Hollow Stem Au	ger/S	olit-S	Spoon	TOTAL DEPTH: 16.0 Feet			
DRI	LLING	COMP	ANY:	Burlington Env	ironme	ental	ONYSPANIOSSINIOS BEOGRAPHICA CONTRACTOR CONT	GEOLOGIST: Lee Gorday			
National Association of the Control	NO.	NI 9	\vdash	d (microRem/Hr)	907 3	CLASS		CEOLOGIC DECOMPTION			
DEPTH feet	SAMPLE NO.	BLOWS/6	VALUES	PROFILE 0 50	GRAPHIC LOG	SOIL CL		GEOLOGIC DESCRIPTION	REMARKS		
	SS1 0-2		16	0 30			ASH, SILT damp.	, some SAND, loose, dark gray,	70% recovery, spoons pushed to 10 feet		
-			13						70% recovery -		
5-	SS2 4-6		25						70% recovery -		
-			18						10% recovery		
-	SS3 8-9		11						80% recovery		
10-		5,6, 6,7	18				FILL at 9. pink, olive	8 ft., SILT and SAND, multi-layered and moderate brown in pods.	60% recovery, spoons hammered below 10 feet		
-		5,6, 6,7	17				FILL, SILT	, some SAND, compact, olive.	80% recovery -		
15—		4,5, 7,9	17				FILL, SILT fragments, SILT.	and SAND, some GRAVEL and brick olive brown with pods of light gray	100% recovery -		
					(2/2		Total Dept	th 16.0 feet.	-		
20-									-		
	- Anna Carlotte Control of the	and the state of t									
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			e de la composiçõe de l		And the state of t	Personal and the second se					

2				gineering	Sc	ien	се	Log of Bori	na SB-12		
ļ	Louis,		000000000000000000000000000000000000000		00000000000000000	TOSS NORSH MARKET M					
-		*********	THE REAL PROPERTY.	elica St. Ash Pile)	WEALTH WATER		LOCATION: Near H-6			
		***************************************	-	89.01000		************		SURFACE ELEVATION: 117.13 ft. MSL			
-	***	***************************************	-	November 1994		WE PER CHILDREN IN		INITIAL WATER LEVEL:			
-		-	***************	November 1994 Hollow Stem Aug	204/0	- III (7	STATIC WATER LEVEL:			
				Burlington Envi			spoon	TOTAL DEPTH: 16.0 Feet GEOLOGIST: Lee Gorday			
		T	NAME AND ADDRESS OF THE PERSON	d (microRem/Hr)	T	Tittai		GCOCOGIST. Lee GOIDAY			
H	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE	GRAPHIC LOG	CLASS		GEOLOGIC DESCRIPTION	REMARKS		
DEPTH feet		BLO	VAL	0 50	GRAI	SOIL					
-	SS1 0-2		17				ASH, SILT	, loose, dark gray, uniform, damp.	60% recovery, spoons pushed to 10 feet		
	SS2 2-4 SS4		17						80% recovery		
5-	10-12		15						10% recovery -		
- -			21						50% recovery		
1	SS3 8-9		19						80% recovery		
10-		4,8, 9,12	20				FILL at 9.1 organics, s	6 ft., SILT, some SAND, lenses soft to firm, dark yellowish, damp.	70% recovery, spoons hammered below IO feet		
1		4,5, 7,8	21				FILL, SILT damp, light	, few rock fragments, compact, yellowish brown.	50% recovery -		
15-		2,2, 8,10	12				FILL, SANI gray, comp	O and SILT, reddish brown to light pact, damp.	-		
+					2.12.1 		Total Dept	h 16.0 feet.	-		
									-		
20-			***************************************						_		
1	***************************************										
7	Hiberokermannensytelek	AND RESERVE AND PROPERTY.	MANAGEMENT OF STREET,								
25-				To a second seco	Activities of the second second	***************************************					
orest deliberated despessed									-		
1	Value of the Control	***************************************			CONTRACTOR AND ADDRESS OF THE PERSON NAMED OF	The state of the s					

	Brso Louis,			gineering	Sc	ien	се	Log of Boring SB-13			
				gelica St. Ash Pile)		Michigan Hermanikan (Karengeran German)	LOCATION: Near G-8			
		-		589.01000	************			SURFACE ELEVATION: 118.22 ft.	YSL		
THE REAL PROPERTY.	_	-		November 1994	·	-	-	INITIAL WATER LEVEL:			
-		************		November 1994	CEO-METER MONTH			STATIC WATER LEVEL:			
8		******	-	Hollow Stem Au				TOTAL DEPTH: 16 Feet			
DKI	LLING	COMP	-	Burlington Env	ironm	ental T		GEOLOGIST: Lee Gorday			
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	ALUES	PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
	SS1 0-2		24				ASH, SILT	, loose, dark gray, damp.	60% recovery, spoons		
-	1			National Property of the Control of					pushed to 10 feet		
1 -	1		16						60% recovery		
-				unumonomonomonomonomonomonomonomonomonom							
amende f			16						20% recovery		
5-			.0						20% recovery		
	SS2 6-8		16						60% recovery		
									1		
	SS3		12						70% recovery		
-	8-10										
10-		5,7,	17				FILL at 9.9	9 ft., SILT, some SAND, pods of pink	100% recovery, spoons		
		9,12	''				and moder	ate reddish brown, compact, damp.	hammered below 10 feet		
									1		
		6,8, 10,7	15						60% recovery		
		,.							-		
		6,8, 6,8	17				FILL, SILT	, little SAND, compact, brown, damp.	60% recovery		
15-		6,8							_		
1 -					272		Tatal Dast	h 16.0 feet.			
							rotal bept	M 10.0 Teet.			
									- Constant		
	ŀ										
20-			and						_		
1 -	l								-		
	Population										
25-									_		
	Mindrethebanes								-		

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	arso Louis,			gineering	Sc	ien	ce	Log of Boring SB-14			
PRO	JECT:	MSL) Ange	elica St. Ash Pile	**************************************	ndek Goden Schools	iki da kitaban erraka araka sa kata da kitaban sa kata sa kitaban sa kata sa kitaban sa kata sa kitaban sa kat	LOCATION: Between F-7 and	G-8		
PRO	JECT I	NO.:	7265	89.01000	***************************************	5000000000000000000000000000000000000		SURFACE ELEVATION: 118.44	ft. MSL		
DAT	E STA	RTE): 21	Vovember 1994				INITIAL WATER LEVEL:			
DAT	E FIN	ISHE	D: 2	November 1994	**************************************	****		STATIC WATER LEVEL:			
DRI	LLING	METH	IOD:	Hollow Stem Au	ger/S	plit-S	Spoon	TOTAL DEPTH: 16.0 Feet			
				Burlington Env				GEOLOGIST: Lee Gorday	***************************************		
		z	I	I (microRem/Hr)							
DEPTH feet	SAMPLE NO.	BLOWS/8	VALUES	PROFILE 50	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
-	SS1 0-2		17				ASH, SILT	, loose, uniform dark gray, damp.	60% recovery, spoons pushed to IO feet		
-			21						50% recovery -		
5-	SS2 4-6		24						90% recovery -		
			16						60% recovery		
7	SS3 8-10		18						20% recovery		
10-		6,9, 9,10	16				FILL at 10 damp yello	.O ft., SILT, some SAND, compact, wish red.	100% recovery, spoons hammered below 10 feet		
1		4,5, 3,10	15				FILL, SILT brown, dar damp.	, some SAND, mixture of reddish k gray and light gray, compact,	80% recovery		
- 15-		2,3, 6,8	18						_		
					4,74,7		Total Dept	h 16.0 feet.			
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20-		***************************************									
	And the second second second										
			Manuschine Andrews (Alberta College								
25—			***************************************			Validation in property in the second			_		
		And the second s			чальфинаций выпусы.						
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	Parsons Engineering Science St. Louis, Missouri							Log of Bor	ing SB-15		
PRO	JECT:	MSL) Ang	elica St. Ash Pile		TEORNAL TRANSPORTE		LOCATION: Near F-8			
2	THE R. P. LEWIS CO., LANSING, SANSAGER, SANSAGER, SANSAGER, SANSAGER, SANSAGER, SANSAGER, SANSAGER, SANSAGER,	WASCESSAMOND THE PERSON NAMED IN	****	89.01000	-		***************************************	SURFACE ELEVATION: 117.28 ft. MSL			
	-	-		November 1994		***************************************	TO THE REAL PROPERTY HOLD TO SERVE THE PROPERTY OF THE PROPERT	INITIAL WATER LEVEL:			
DAT	EFIN	ISHE	D: 2	November 1994	7770 - 100 	***************************************	**************************************	STATIC WATER LEVEL:			
DRI	DRILLING METHOD: Hollow Stem Auger/Split-Spoon							TOTAL DEPTH: 14.0 Feet			
				Burlington Env				GEOLOGIST: Lee Gorday			
	G.	z	Rac	1 (microRem/Hr)	98	S					
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
			18				ASH, SILT loose, dan	, little SAND, uniform dark gray, np.	80% recovery, spoons pushed to 10 feet		
	SS1 2-4		19						30% recovery -		
5 -		POT PARKET SERVICE SER	21						10% recovery -		
	SS2 6-8		17						80% recovery -		
10	SS3 8-9		19				FILL at 8. GRAVEL, c	8 ft., SILT, some SAND, trace compact, damp, brown.	100% recovery		
10-		10,12, 15,17	16						60% recovery, spoons hammered below IO feet		
		5,6, 7,8	12				reddish br		60% recovery		
15-			Middinessamolain				Total Depi	th 14.0 feet.			
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20-											
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1	***************************************								-		
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		Markethonorman									
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2	3rso Louis			gineering	Sc	ier	ice	Log of Boring SB-16			
PRC	JECT:	MSI) Ana	elica St. Ash Pile	-	emanopasana	in the contract point or the contract of the c	LOCATION: Near E-7			
3	Market Market Company of the Parket	-		89.01000		TO SHE HOUSE		SURFACE ELEVATION: 117.70 ft. MSL			
J	***************************************	_		November 1994	***************************************	***************************************		INITIAL WATER LEVEL:	. <i>1</i> 73L		
-				November 1994	A TOTAL PROPERTY.	***********		STATIC WATER LEVEL:			
-		****	****	Hollow Stem Augu	er/S	olit-:	Spoon	TOTAL DEPTH: 14.0 Feet			
				Burlington Envir				GEOLOGIST: Lee Gorday			
Statement Common	Charles Constitution of the		1	d (microRem/Hr)	***************************************	T					
OEPTH feet	SAMPLE NO.	BLOWS/8 IN	VALUES	PROFILE 0 50	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
	SSI 0-2 SS4 10-12		15				ASH, SILT gray, dam	, little SAND, loose, uniform dark D.	70% recovery, spoons pushed to 10 feet		
-	10-12		22				-		100% recovery		
5-	SS2 4-6		17						70% recovery		
_			15						100% recovery		
-	SS3 8-9		16						100% recovery		
10-		6,5, 5,5	16				FILL at 9. compact, (2 ft., SILT and SAND, trace GRAVEL, damp, brownish yellow.	80% recovery, spoons hammered below 10 feet		
		3,4, 5,9	15				FILL, SILT reddish br	, some SAND, compact, pods of own in brown, damp.	90% recovery		
				k							
				Γ			Total Dept	h 14.0 feet.			
15—									-		
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St.	Parsons Engineering Science St. Louis, Missouri							Log of Boring SB-17			
9			THE REAL PROPERTY.	gelica St. Ash Pile	?			LOCATION: <i>Near E-8</i>	minimining menimining com double organism dan pales and double and a pales and		
§	DJECT			589.01000				SURFACE ELEVATION: 116.98	9 ft. MSL		
	***************************************			November 1994				INITIAL WATER LEVEL:			
-	*******	****	***************************************	November 1994	Militar State & Madagaga			STATIC WATER LEVEL:			
4			THE OWNER OF THE OWNER OWNER OF THE OWNER OW	Hollow Stem Aug	****	Market Street, Square,	NAME AND ADDRESS OF THE PARTY O	TOTAL DEPTH: 12.0 Feet			
DRI	LLING	COMP	ANY:	Burlington Envi	ironm	ental	47775 WHICH SAFEE CONTROL OF THE SAFEE CONTROL OF T	GEOLOGIST: Lee Gorday			
Werehologophologo	NO.	NI 9/	<u> </u>	d (microRem/Hr)	0070	CLASS		GEOLOGIC DESCRIPTION	05/40/40		
DEPTH feet	SAMPLE NO.	BLOWS/6		PROFILE 50	GRAPHIC LOG	SOIL CI			REMARKS		
-	Section of the sectio		14				ASH, SILT	, loose, uniform dark gray, damp.	70% recovery, spoons pushed to 10 feet		
Medical Control of Cont	SS1 2-4		20						80% recovery -		
5-	SS2 4-6		19						80% recovery		
	SS3 6-8		15						70% recovery		
			16				FILL at 8.2 pepper tex	2 ft., SAND, some SILT, salt and sture, compact.	100% recovery		
10-		5,4, 4,6	16				FILL, SILT damp, dark	, some SAND, slightly compact, brown.	100% recovery, spoon hammered		
					2::2:		Total Dept	h 12.0 feet.	-		
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	***************************************					MILITANIA (MA			_		

	Parsons Engineering Science St. Louis, Missouri							Log of Boring SB-18			
	**************	xe year on the least of the	ministration of the contract o	elica St. Ash Pile	None Control			LOCATION: Between D-7 and E-	. 7	_	
	***************************************	~~~~		89.01000	-			SURFACE ELEVATION: 116.14 ft.		ᅱ	
	***************************************	WHENTERSEE	-	November 1994	************	************		INITIAL WATER LEVEL:		一	
-			***************************************	November 1994		******		STATIC WATER LEVEL:			
				Hollow Stem Auger	r/Spl	lit-S	'noon	TOTAL DEPTH: 14.0 Feet		ᅦ	
	-	*******		Burlington Environ				GEOLOGIST: Lee Gorday		ᅱ	
			nochococococo	d (mines Com (Us)		1				_	
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	ALUES	PROFILE 50	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
-		_u_	17	10		.,	ASH, SILT	, loose, dark gray, damp.	80% recovery, spoons pushed to 10 feet		
-	SS1 2-4		17						10% recovery	4	
5-	SS2 4-6		21						90% recovery	1	
7	SS3 6-8		15						60% recovery	4	
7			14				FILL at 8.	8 ft., SILT and SAND, vaugely	30% recovery		
10-		3,8, 16,19	18				FILL, SIL1	compact, dark brown. and SAND intermixed, reddish brown h gray, compact, damp.	100% recovery, spoons hammered below 10 feet		
-		8,9, 9,9	19				FILL, SIL1	Γ, some SAND, medium gray, moist.	30% recovery	-	
15-					2/1		Total Dep	th 14.0 feet.		-	
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meetine meetin meetine meetine meetine meetine meetine meetine meetine meetine					***************************************					-	
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25-					Vandering and section of the section					-	
T. L.										1 1	

1	arso Louis,			gineering	Sc	ien	се	Log of Borin	g SB-19		
Same	502765C0300000000000000000000000000000000000	NAMES OF THE OWNER, OWN	MARKACAN DOMANGO	gelica St. Ash Pile		NAME OF THE OWNER, WHEN THE OW	inannikansa usentabakkehanasasakkeusasasakeu	LOCATION: Near D-8			
-				589.01000	***************************************	***********	i Gran di santana di s	SURFACE ELEVATION: 117.63 ft.	MSL		
The same of the sa		-		November 1994	***************************************			INITIAL WATER LEVEL:			
	*****	****	***************************************	November 1994	************************	-		STATIC WATER LEVEL:			
2			*****	Hollow Stem Aug	TANADA BARANSA BARANSA	********	Spoon	TOTAL DEPTH: 14.0 Feet			
UKI	LLING	COMP	**************************************	Burlington Envi	ironme	ental 		GEOLOGIST: Lee Gorday			
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	d (microRem/Hr) PROFILE	GRAPHIC LOG	L CLASS		GEOLOGIC DESCRIPTION	REMARKS		
DE		BL(o 50	GR/	SOIL					
1	SS1 0-2		21				ASH, SILT	, loose, dark gray, damp.	100% recovery, spoons pushed to 10 feet		
-			18						90% recovery		
5—	SS2 4-6		13						20% recovery		
-	SS3 6-8		16						100% recovery		
			18				FILL at 8. and light g	4 ft., SAND and SILT, reddish brown ray, compact, damp.	-		
10-	And the second s		19					and SAND, yellowish brown.	40% recovery, spoons hammered below 10 feet		
			18				FILL, SANG gray and y) and SILT, moist, pods of pinkish vellowish red.	70% recovery		
15—					(X/X)		Total Dept	h 14.0 feet.	-		
	l								- American		
1 -		vi i i i i i i i i i i i i i i i i i i									
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	PATRICIAL					Proposition					
							MARKACAN PERIOD CO. DESCRIPTION OF THE				

8	rso Louis,			gineering	Sc	ien	се	Log of Boring SB-20			
PRO	JECT:	MSL	Ang	elica St. Ash Pile	·	00009000000000000000000000000000000000		LOCATION: Near C-8	201001420438440445444000444466400000000000000000000		
Secretaria		*****************	***********	89.01000		~~~	The Control of the Co	SURFACE ELEVATION: 118.14 ft.	MSL		
DAT	ESTA	RTEC	: 2	November 1994	Annonnonogama	·····		INITIAL WATER LEVEL:			
DAT	EFIN	ISHE	D: 2	November 1994	************			STATIC WATER LEVEL:			
DRI	LLING	METH	IOD:	Hollow Stem Aug	ger/S	plit-S	Spoon	TOTAL DEPTH: 16.0 Feet			
§		The second second second	*****	Burlington Env	THE RESERVE OF THE PERSON NAMED IN	-		GEOLOGIST: Lee Gorday			
			Rad	d (microRem/Hr)	T	CALABAMATICO CO.					
DEPTH feet	SAMPLE NO.	BLOWS/6 IN		PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
	SS1 0-2		15				ASH, SILT damp.	, trace GRAVEL, loose, dark gray,	80% recovery, spoons pushed to 10 feet		
			10				45 p.		10% recovery		
5-	SS2 4-6		20						90% recovery -		
-			15				Thin soil 7	one at 7 feet.	80% recovery		
1	SS3 8-9		18						30% recovery		
10- -		7,7, 7,26	23				damp, brov FILL, SANI	I ft., SILT, some SAND, compact, wn. D and SILT, pods of strong brown gray, damp.	60% recovery, spoons hammered below 10 feet		
		7,22, 22,25	17				FILL, SILT yellowish r	and SAND, compact, damp, ed.	80% recovery		
15-		7,9, 14,19	16					D, some SILT, coarse stratification, own to pinkish gray.	60% recovery -		
					(X <u>/</u> X		Total Dept	h 16.0 feet.			
-		***************************************									
20-									-		
OCHOCOCHO CONTROL DE C		THE PERSON NAMED OF THE PE				- Control of the Cont					
	And the second s	***************************************	and the second second						1		
25-	MENTAL PROPERTY AND ADMINISTRATION OF THE PROPERTY										
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8	Parsons Engineering Science St. Louis, Missouri							Log of Boring SB-21			
PRO	JECT:	MSL) Ang	gelica St. Ash Pile				LOCATION: On road between pile	s, near 6-7		
-	***************************************	_		589.01000				SURFACE ELEVATION: 107.84 ft. MSL			
THE REAL PROPERTY.		~~~~	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN	November 1994	-	¥		INITIAL WATER LEVEL:			
-		***********		November 1994		Witness of the Control		STATIC WATER LEVEL:			
-				Hollow Stem Aug		******		TOTAL DEPTH: 6.0 Feet			
ORI	DRILLING COMPANY: Burlington Environmental							GEOLOGIST: Lee Gorday			
DEPTH feet								GEOLOGIC DESCRIPTION	REMARKS		
2 2	ळे	퓹	22		85	S	~ TI /3 TI ~				
			22				ł .	, some SAND, reddish brown.	100% recovery. all spoons pushed		
							gray.	, some SAND, trace GRAVEL, light			
			16				FILL, SANI light gray	D interbedded with SILT, some SAND, and reddish brown.	100% recovery.		
5-			19				FILL, SILT brown.	, some SAND, very uniform light	10% recovery.		
-							Spoon refu	usal at 6.0 feet.	-		
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2	3750 Louis			gineering	Sc	ien	се	Log of Borin	ng SB-22		
government of the same	Mark to the second	COMMUNICATION NAMED IN		elica St. Ash Pile		quistonaces conce	nette distribution in the constitution in the space distribution is seen as	LOOLTTON. C. J. C. O. C.			
	JECT.			89.01000				LOCATION: East of C-8	Å NC		
	-	-		November 1994		***************************************	***************************************	SURFACE ELEVATION: 110.00 ft. MSL INITIAL WATER LEVEL:			
2	-	-		November 1994		PROCESSOR AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRES		INITIAL WATER LEVEL: STATIC WATER LEVEL:			
-		-	NAME AND ADDRESS OF THE OWNER, WHEN THE OWNER,	Hollow Stem Au	ger/S	plit-S	Spoon	TOTAL DEPTH: 12.0 Feet			
				Burlington Env				GEOLOGIST: Lee Gorday			
			Rad	d (microRem/Hr)	7				and and the personal properties and an interest of the personal properties and the personal p		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
			20				ASH, SILT	, loose, uniform dark gray, damp.	70% recovery, spoons		
									pushed to 10 feet		
	SSI		16	***************************************					60% recovery		
	2-4										
			17						10% recovery		
5-			"								
	SS2 6-7		16						100% recovery		
							ASH, as all sand sized	bove, with possible brick fragments, d.	-		
1 1			15					4 ft., SAND and GRAVEL, COAL	80% recovery		
					0.0		fragments				
10-		3.7.	16		00				30% recovery, spoon		
		3,7, 3,3			000				hammered		
					o o		* 0				
							i otai nep	th 12.0 feet.	_		
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15-						***************************************			_		
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							NAME OF THE OWNER OWNER OWNER.		-		

8	3rso Louis			gineering	Sc	ien	ice	Log of Bor	ing SB-23		
PRO	JECT:	MSL	Ange	elica St. Ash Pile		NAMES AND ASSESSED.		LOCATION: Southeast corner of pile			
PRO	JECT	NO.:	7265	89.01000				SURFACE ELEVATION: 111.47 ft. MSL			
DAT	E STA	RTED	: 21	November 1994				INITIAL WATER LEVEL:			
DAT	DATE FINISHED: 2 November 1994							STATIC WATER LEVEL:			
DRI	DRILLING METHOD: Hollow Stem Auger/Split-Spoon							TOTAL DEPTH: 12.0 Feet	***************************************		
DRI	LLING	COMP	ANY:	Burlington Env	ironme	ental		GEOLOGIST: Lee Gorday			
H	SAMPLE NO.	BLOWS/6 IN	VALUES	1 (microRem/Hr) PROFILE	GRAPHIC LOG	CLASS		GEOLOGIC DESCRIPTION	REMARKS		
DEPTH feet	SAM	300	ALI	0 50) RA	SOIL					
-			18	0 50		0)	ASH, SILT	, brownish gray, loose, damp.	30% recovery, spoons pushed to 10 feet		
	SS1 2-4		17						80% recovery -		
5-			16						10% recovery		
A T	SS2 6-8		11						60% recovery		
			18				ASH, SILT	, reddish brown, loose, damp.	50% recovery		
10-		3,10, 48,15	20		0000		FILL at 9.1 and brick	B ft., SAND and GRAVEL, black, COAL fragments.	80% recovery, spoon hammered		
					6 id		Total Dept	h 12.0 feet.			
15—				•							
			NAMES OF TAXABLE PARTY						-		
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		- Paris Company of the Paris C									
	The second second second	No. of Control of Control									
1	- The state of the	THE PERSON NAMED IN COLUMN		:							
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	l										
						W. Carlottingen			- Company of the Comp		

	arso Louis,			ineering (Sci	en	се	Log of Boring SB-24			
PRO	JECT:	MSE	Ange	lica St. Ash Pile	esta de la composição	THE PERSONS IN THE PE		LOCATION: Near D-10	eres are entre services and a contract of the		
Barren and a second	-	************		19.01000	*********			SURFACE ELEVATION: 112.59 ft. MSL			
DAT	E STA	RTED	: 3 N	lovember 1994	***************************************	**********		INITIAL WATER LEVEL:			
DAT	E FIN	ISHED	D: 3/	November 1994				STATIC WATER LEVEL:			
DRI	LLING	METH	OD:	Hollow Stem Auge	er/Sp	lit-S	Spoon	TOTAL DEPTH: 10.2 Feet			
DRI	ORILLING COMPANY: Burlington Environmental							GEOLOGIST: Lee Gorday			
TH	SAMPLE NO.	BLOWS/6 IN	VALUES BB	(microRem/Hr) PROFILE	GRAPHIC LOG	. CLASS		GEOLOGIC DESCRIPTION	REMARKS		
DEPTH feet	SAM	BLO	VAL	50	GRA	SOIL					
	***************************************		18	30			ASH, SILT	, dark gray, loose, damp.	60% recovery, spoons pushed		
-	SS1 2-4		14						70% recovery -		
5-			12						80% recovery -		
1	SS2 6-8		21						100 % recovery		
			16						100% recovery		
10-							Spoon and	auger refusal at 10.2 feet.			
7											
15—											
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		ere minerale ere propriationere							-		
20-		***************************************									
			HARMAN AND THE STREET, SANS								
+			***************************************								
25-		Valentije proposacija sasta	Manage Agraphic Association (Manage Agraph A								
1	A CANADA										

	3rso Louis			gineering	Sc	ier	ice	Log of Boring SB-25		
				elica St. Ash Pile	3	NEWS CONTROL OF THE	MCHCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	LOCATION: West of D-9		
Burganisan		-	*****	89.01000		***************************************		SURFACE ELEVATION: 110.52 ft. MSL		
	THE RESERVE AND DESCRIPTION OF THE PERSON NAMED IN	-		November 1994	***************************************	***************************************	- Miniminaria managana managan	INITIAL WATER LEVEL:		
-	-			November 1994				STATIC WATER LEVEL:		
				Hollow Stem Au				TOTAL DEPTH: 12 Feet		
DKI	LLING	TUMP		Burlington Env	ironm	ental T	**************************************	GEOLOGIST: Lee Gorday		
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE 0 56	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS	
-	SS1 2-4		15	о ""			ASH, SILT	, dark gray, loose, damp.	70% recovery, spoons pushed to 10 feet 100% recovery	
5— -	SS2		17 18						80% recovery -	
10-	6-8		15				FILL, at 8 rock fragm	.6 feet, rubble including brick and lents, dark gray to black.		
		2,2, 2,3	17				Total Dept	ch 12 feet.	40% recovery, spoon hammered	
15-										
20-										
25-		Name of the state								
						Annual property (All Control of the				

Pa	arso	ns	En	gineering	Sc	ier	ice	Log of E	Borina	SB-26
223C55000000000000	Louis	Mariana managana ana	MANAGEMENTO VISIONS		one conseque de cons		TO AN IN COLUMN ASSESSMENT OF THE PROPERTY OF		· · · · · · · · · · · · · · · · · · ·	
				elica St. Ash Pile	}	· · · · · · · · · · · · · · · · · · ·		LOCATION: Near E-9		
-	***************************************	~		89.01000	·	-		SURFACE ELEVATION: 109.59 ft. MSL		
		*****		November 1994	~	NO. 144-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		INITIAL WATER LEVEL:		
B	*****			November 1994			***************************************	STATIC WATER LEVEL:		
8				Hollow Stem Aug Burlington Env	***************************************		******************	TOTAL DEPTH: 12 Feet		
DUI	LLING	T	1		roniii	entai		GEOLOGIST: Lee Gorday	/ ************************************	Metandhalachan Gudun ann air air agus an air agus an
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	d (microRem/Hr) PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION		REMARKS
0.4	Ŋ	<u> </u>	2 0	0 50) 	S	ASH, STLT	, dark gray, loose, damp.		70% 40.0
							, , , , , ,	, dank gray, loose, damp.		70% recovery, spoons pushed to 8 feet
	SS1 2-4		22							75% recovery
5-			16							90% recovery =
7	SS2 6-8		17							80% recovery
-		4,17, 15,16	17				FILL at 7. fragments, fragments.	8 feet, rubble, rock and coal dark brown to black, glass		60% recovery, spoons hammered below 8 feet
10-		2,3, 2,4	15							50% recovery —
7					2/2		Total Dept	th 12.0 feet.		-
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Page 1 of 1

	3rso Louis			gineering	Sc	eier	nce	Log of Boring SB-27		
PRO	VECT:	MSI	D Ange	elica St. Ash Pile	2	intratamacococo	COORDON CONTRACTOR OF THE PROPERTY OF THE PROP	LOCATION: East of E-10		
PRO	JECT	NO.:	72658	89.01000		***************************************		SURFACE ELEVATION: 111.18 ft. MSL		
Butter and a second		-		<i>November 1994</i>			***************************************	INITIAL WATER LEVEL:		
B.	_			November 1994				STATIC WATER LEVEL:		
				Hollow Stem Au				TOTAL DEPTH: 9.0 Feet		
DRI	LLING	COMP	ANY:	Burlington Env	ironm	ental		GEOLOGIST: Lee Gorday		
	NO.	NI 9	\vdash	(microRem/Hr)	907 3	CLASS	THE PARTY PROPERTY AND ASSESSMENT OF THE PARTY PROPERTY ASSESSMENT OF THE PARTY PROPERTY PROP	GEOLOGIC DECODINATION		
ОЕРТН feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE 50	GRAPHIC LOG	SOIL CL		GEOLOGIC DESCRIPTION	REMARKS	
			10				ASH, SILT	, uniform dark gray, loose, damp.	70% recovery, spoons pushed	
-	SS1 2-4		17						70% recovery	
5-			17						100% recovery -	
	SS2 6-8		19						100% recovery	
			DAGABARAKA PROPERTY P				Spoon and	auger refusal at 9.0 feet.	50% recovery	
10-							aposit dila	auger rerusar at 5.0 reet.	_	

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1			WORTH A STATE OF THE STATE OF T							
	-		and an artist of the second							
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	With the second		n per property described by the second		-					
	***************************************				anis rougoous, de	000000000000000000000000000000000000000				

- 1	3rsc Louis			jineering	Sc	ier	nce	Log of Boring SB-28			
				elica St. Ash Pile)	0003146000000000		LOCATION: West of F-9			
-	-	-	-	39.01000				SURFACE ELEVATION: 109.17			
***************************************	************	**************		November 1994				INITIAL WATER LEVEL:			
-	********	~~~~~	***************************************	November 1994	MV-D		***************************************	STATIC WATER LEVEL:			
				Hollow Stem Aug				TOTAL DEPTH: 12 Feet			
DKI	LLING	T		Burlington Env	ironme	ental T	***************************************	GEOLOGIST: Lee Gorday			
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	(microRem/Hr) PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS		
1	SS1 2-4		11				ASH, SILT loose, dam	, trace SAND, uniform dark gray, p.	50% recovery, spoons pushed to 8 feet 70% recovery		
5-			12	Blooding .					60% recovery -		
	SS2 6-8		13						100% recovery -		
10-		4,12, 20,15	21				FILL at 8.0 coal fragm	O feet, SAND and GRAVEL, rubble, ents, black, some rust stains.	60% recovery, spoons hammered below 8 feet -		
		2,4, 2,2	16						60% recovery —		
							l otal Dept	h 12.0 feet.			
15-			A STATE OF THE STA						_		
20-						**************************************					
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	A THE REAL PROPERTY OF THE PRO	anning the second secon	Manager of the Particular State of the Particular Stat						-		
25-	**************************************	MANAGON PROPERTY PROP			***************************************	***************************************					
		ALTERNATION OF THE PROPERTY OF			**************************************						

	3rso Louis			gineering	Sc	ier	ice	Log of Boring SB-29		
PRO	JECT:	MSI) Ang	elica St. Ash Pile	•	kithinining pagas	TOTAL CONTRACTOR OF THE PROPERTY OF THE PROPER	LOCATION: Near F-10		
				589.01000	-	***************************************		SURFACE ELEVATION: 108	.55 ft. MSL	
DAT	TE STA	RTEC): <i>3</i>	November 1994				INITIAL WATER LEVEL:		
DAT	E FIN	ISHE): <i>3</i>	November 1994				STATIC WATER LEVEL:		
DRI	LLING	METH	10D:	Hollow Stem Aug	ger/S	plit-	Spoon	TOTAL DEPTH: 6.8 Feet		
				Burlington Env				GEOLOGIST: Lee Gorday		
	NO.	NI 9/		d (microRem/Hr)	0 LOG	CLASS		GEOLOGIC DESCRIPTION	DEMARKO	
DEPTH feet	SAMPLE NO.	BLOWS/6 IN		PROFILE 0 50	GRAPHIC LOG	SOIL CL			REMARKS	
_			12				ASH, SILT,	dark gray, loose, damp.	70% recovery, spoons pushed	
-	SS1 2-4		19						70% recovery	
5-	SS2 4-6		19						60% recovery	
MACHINE THE PROPERTY OF THE PR			11				Spoon and	auger refusal at 6.8 feet.	30% recovery	
									-	
10-										
-			and the state of t							
			Management of the Control of the Con							
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	3rso Louis,			gineering	Sc	ier	ice	Log of Boring SB-30		
	OFFICE OFFICE OF THE PROPERTY		-	elica St. Ash Pile	timer chance con	MANAGAR PARA	Signification to the second control of the s	LOCATION: Near G-9		
8				89.01000	***************************************			SURFACE ELEVATION: 110.41 ft. MSL		
-	************	WHILE SHARE HER PARTY OF THE PA		November 1994	***************************************			INITIAL WATER LEVEL:	TO. FIOL	
Barana and a second	***************************************		-	November 1994			ATTENNESS OF THE STATE OF THE S	STATIC WATER LEVEL:		
DRI	LLING	METH	10D:	Hollow Stem Aug	er/S	plit-	Spoon	TOTAL DEPTH: 9.1 Feet		
DRI	LLING	COMP	ANY:	Burlington Envi	ronm	ental		GEOLOGIST: Lee Gorday		
	NO.	NI 9	 	d (microRem/Hr)	907 3	CLASS		GEOLOGIC DESCRIPTION	DEVADVO.	
DEPTH feet	SAMPLE NO.	BLOWS/6 IN		PROFILE	GRAPHIC LOG	SOIL CL			REMARKS	
-			17				ASH, SILT	, uniform dark gray, loose, damp.	30% recovery, spoons pushed	
-	SS1 2-4		17						70% recovery	
5-			17						90% recovery	
-	SS2 6-8		22						100% recovery	
			20				C2222		50% recovery	
10-			Andread Chapters				Spoon and	auger refusal at 9.1 feet.		
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20-	SEPREPHANIANIANIANIANIANIANIANIANIANIANIANIANIA								-	
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	arso Louis			gineering	Sc	ien	се	Log of Boring SB-31		
				nelica St. Ash Pile		e-yea-yea-yea-yea-yea-yea-yea-yea-yea-ye	economica de la companya de la comp	LOCATION: Between F-9 and E-10		
PRC	JECT	NO.:	7265	589.01000		~~~~~	***************************************	SURFACE ELEVATION: 110.56 ft. MSL		
DAT	E STA	RTE): <i>3</i>	November 1994				INITIAL WATER LEVEL:		
DAT	E FIN	ISHE	D: <i>3</i>	November 1994		*************		STATIC WATER LEVEL:		
DRI	LLING	METH	10D:	Hollow Stem Aug	er/S	plit-9	Spoon	TOTAL DEPTH: 12 Feet		
DRI	LLING	COMP	'ANY:	Burlington Envir	ronme	ental		GEOLOGIST: Lee Gorday		
			T	d (microRem/Hr)	***************************************				no de la companya del la companya de	
DEРТН feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE 50	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS	
*			15				ASH, SILT	, uniform dark gray, loose damp.	70% recovery, spoons pushed to 10 feet	
-	SS1 2-4		18						100% recovery	
5-			12						90% recovery -	
	SS2 6-8		20						80% recovery	
			11						70% recovery	
10-		2,3, 7,4	15				fragments moist.) feet, rubble, rock and coal grading downward to SILT, green, h 12.0 feet.	80% recovery, spoon hammered	
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St.	Louis	, Miss	ouri	gineering		ier	ice	Log of Boring SB-32		
PRO	DJECT:	MSL) Ange	elica St. Ash Pile)		BASONISA O COMO CARACTER SE COMO PROMISSO (LA COMO COMO CARACTER SE COMO C	LOCATION: Between D-9 and C-10		
PRO	JECT	NO.:	7265	89.01000		······································		SURFACE ELEVATION: 110.17 ft. MSL		
DAT	TE STA	RTEC	: 3/	November 1994				INITIAL WATER LEVEL:		
DAT	E FIN	ISHE): <i>3</i>	November 1994				STATIC WATER LEVEL:		
DRI	LLING	METH	OD:	Hollow Stem Aug	ger/S	plit-	Spoon	TOTAL DEPTH: 9.0 Feet		
DRI	LLING	COMP	ANY:	Burlington Envi	ironm	ental		GEOLOGIST: Lee Gorday		
				(microRem/Hr)						
DEPTH feet	SAMPLE NO.	BLOWS/6 IN	VALUES	PROFILE	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS	
			13				ASH, SILT	, dark gray, loose, damp.	40% recovery, spoons	
			1						pushed	
	SS1 2-4		13						100% recovery	
5-			15						80% recovery -	
	SS2 6-8		19						70% recovery	
			16						-	
,, 1							Auger and	spoon refusal at 9.0 feet.		
10-									-	
									-	
15—	l	l		***************************************					-	
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St.	Louis	, Miss	ouri	gineering S	cier	nce	Log of Boring SB-33		
				nelica St. Ash Pile			LOCATION: Between C-4 and D-4		
-		*****	-	589.01000	***************************************		SURFACE ELEVATION: 117.39 ft. MSL		
		******************************		November 1994		***************************************	INITIAL WATER LEVEL:		
-		-	***	November 1994			STATIC WATER LEVEL:		
				Hollow Stem Auger.			TOTAL DEPTH: 14.0 Feet		
DRI	LLING	COMP	ANY:	Burlington Enviror	mental	***************************************	GEOLOGIST: Lee Gorday		
<u> </u>	SAMPLE NO.	BLOWS/6 IN		d (microRem/Hr)	CLASS		GEOLOGIC DESCRIPTION	REMARKS	
DEPTH feet	SAME	J. O.	VALUES	, morree	SOIL				
	SS1 0-2		17	0 50 0	3 3	ASH, SILT	, uniform dark gray, loose, damp.	60% recovery, spoons pushed entire boring	
			19					70% recovery	
5-	SS2 4-6		18					100% recovery	
	SS3		17					90% recovery	
- 10-	333		19			FILL at 9.5	9 ft., SILT, some SAND, light	100% recovery	
-			19			yellowish b	rown. , trace SAND, light bluish gray, very	5% recovery	
15-			T T T I S S S A S A S A S A S A S A S A S A S			Total Dept	h 14.0 feet.		

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APPENDIX B LABORATORY REPORTS FOR RADIOLOGICAL ANALYSES



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o Quanterra St. Louis 13715 Rider Trail North Earth City, MO 63045

November 30, 1994

Attention: Wade Price

Date of Receipt

November 11, 1994

Number of Samples

Fourteen (14)

Sample Type SDG Number Ash 3824

Data Deliverable Si

Summary

I. Introduction

On November 11, 1994, fourteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

OTESRL ID	OSL ID	<u>Matrix</u>	Date of Receipt
41129101	6720-001	Ash	11/11/94
41129102	6720-002	Ash	11/11/94
41129103	6720-003	Ash	11/11/94
41129104	6720-004	Ash	11/11/94
41129105	6720-005	Ash	11/11/94
41129106	6720-006	Ash	11/11/94
41129107	6720-007	Ash	11/11/94
41129108	6720-008	Ash	11/11/94
41129109	6720-009	Ash	11/11/94
41129110	6720-010	Ash	11/11/94
41129111	6720-011	Ash	11/11/94
41129112	6720-012	Ash	11/11/94



Engineering Science December 3, 1994 SDG 3824 Page 2

OTESRL ID	OSL ID	<u>Matrix</u>	Date of Receipt
41129113	6720-013	Ash	11/11/94
41129114	6720-014	Ash	11/11/94

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214 Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824 include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.



Engineering Science December 3, 1994 SDG 3824 Page 3

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (4.14 to 5.97 pCi/gram), which exceed the RDL (3 pCi/gram).

Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

Total Uranium

Total Uranium by method ITAS-RD-4200

The lifetime reading of the batch blank after standard addition was less than the desired 150.00 μ g. In order to get an accurate result on the KPA, the lifetime has to be \geq 150.00 μ g. The result read with a 132.548 μ g lifetime is 2.634 μ g/kg, which also increases the MDA. This batch blank result could also be elevated due to contamination from very high activity in all of the samples in the batch. The data is accepted, however, since all samples have activities (6,688.748 μ g/kg - 17,360.830 μ g/kg) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:

Stephen L. Korenkiewicz

Project Manager



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services Richland Laboratory

Sample Delivery Group Number: 3824

CLIENT ID NUMBER	QUANTERRA ID NUMBER
6720-001	41129101
6720-002	41129102
6720-003	41129103
6720-004	41129104
6720-005	41129105
6720-006	41129106
6720-007	41129107
6720-008	41129108
6720-009	41129109
6720-010	41129110
6720-011	41129111
6720-012	41129112
6720-013	41129113
6720-014	41129114



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129101

MATRIX:

SOIL

CLIENT ID:

6720-001

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	000006d4);Perculom
ALPHA	5.00E+01	9.7E+00	1.2E+01	4.14E+00	pCi/g	100.00%	RD3214	
BETA	5.04E+01	3.4E+00	4.8E+00	2.60E+00	pCi/g	100.00%	RD3214	
U-LASER	1.58E+04	2.4E+03	2.4E+03	1.84E+00	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129102

MATRIX:

SOIL

CLIENT ID:

6720-002

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	BOUNDARIE STATE OF THE STATE OF
ALPHA	4.75E+01	9.1E+00	1.3E+01	3.66E+00	pCi/g	100.00%	RD3214	elektrologous
BETA	4.65E+01	3.3E+00	4.5E+00	2.57E+00	pCi/g	100.00%	RD3214	
U-LASER	1.20E+04	1.8E+03	1.8E+03	1.84E+00	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129103

MATRIX:

SOIL

CLIENT ID:

6720-003

DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ANTE CONTRACTOR CONTRA
ALPHA	4.58E+01	9.2E+00	1.1E+01	4.79E+00	pCi/g	100.00%	RD3214	Moachers
BETA	4.61E+01	3.3E+00	4.6E+00	2.54E+00	pCi/g	100.00%	RD3214	
U-LASER	8.30E+03	1.3E+03	1.3E+03	1.84E+00	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129104

MATRIX:

SOIL

CLIENT ID:

6720-004

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.99E+01	9.7E+00	1.3E+01	4.59E+00	pCi/g	100.00%	RD3214
BETA	4.83E+01	3.4E+00	4.6E+00	2.58E+00	pCi/g	100.00%	RD3214
U-LASER	9.03E+03	1.4E+03	1.4E+03	1.84E+00	UG/K	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129105

MATRIX:

SOIL

CLIENT ID:

6720-005

DATE RECEIVED:

11/11/94

Іѕото	PE RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Marian Complete Commen
ALPHA	4.36E+0	1 9.3E+00	1.2E+01	5.37E+00	pCi/g	100.00%	RD3214	
BETA	4.18E+0	1 3.2E+00	4.2E+00	2.48E+00	pCi/g	100.00%	RD3214	
U-LASE	ER 1.50E+0	4 2.3E+03	2.3E+03	1.84E+00	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129106

MATRIX:

SOIL

CLIENT ID:

6720-006

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	5.70E+01	1.0E+01	1.3E+01	4.14E+00	pCi/g	100.00%	RD3214	
BETA	4.58E+01	3.3E+00	4.5E+00	2.77E+00	pCi/g	100.00%	RD3214	
U-LASER	6.69E+03	1.0E+03	1.0E+03	1.84E+00	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129107

MATRIX:

SOIL

CLIENT ID:

6720-007

DATE RECEIVED: 11/11/94

ISOTO	PE RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	N6 20 00 00 00 00 00 00 00 00 00 00 00 00
ALPHA	5.55E+01	9.9E+00	1.4E+01	4.59E+00	pCi/g	100.00%	RD3214	
BETA	4.62E+01	3.3E+00	4.5E+00	2.60E+00	pCi/g	100.00%	RD3214	
U-LASE	R 1.74E+04	2.6E+03	2.6E+03	1.84E+00	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129108

MATRIX:

SOIL

CLIENT ID:

6720-008

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	***************************************
ALPHA	5.22E+01	9.8E+00	1.2E+01	5.01E+00	pCi/g	100.00%	RD3214	GUMME WYSOL
BETA	3.96E+01	3.1E+00	4.0E+00	2.57E+00	pCi/g	100.00%	RD3214	
U-LASER	1.31E+04	2.0E+03	2.0E+03	1.84E+00	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129109

MATRIX:

SOIL

CLIENT ID:

6720-009

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	- Windowski sansania
ALPHA	6.36E+01	1.1E+01	1.5E+01	5.09E+00	pCi/g	100.00%	RD3214	
BETA	4.65E+01	3.3E+00	4.6E+00	2.54E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129110

MATRIX:

SOIL

CLIENT ID:

6720-010

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	olizigaya okaza kiga ya a mara
ALPHA	8.56E+01	1.3E+01	1.9E+01	4.42E+00	pCi/g	100.00%	RD3214	With the second
BETA	5.01E+01	3.5E+00	4.7E+00	2.57E+00	pCi/g	100.00%	RD3214	

Number of Results: 2

MSD 000123



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129111

MATRIX:

SOIL

CLIENT ID:

6720-011

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	PCA34000000000000000000000000000000000000
ALPHA	4.91E+01	9.8E+00	1.2E+01	5.97E+00	pCi/g	100.00%	RD3214	SALAN CONTRACTOR
BETA	3.92E+01	3.1E+00	4.1E+00	2.48E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129112

MATRIX:

SOIL

CLIENT ID:

6720-012

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	***************************************
ALPHA	5.94E+01	1.0E+01	1.5E+01	4.60E+00	pCi/g	100.00%	RD3214	**********
BETA	4.74E+01	3.4E+00	4.6E+00	2.77E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129113

MATRIX:

SOIL

CLIENT ID:

6720-013

DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Displace in the second
ALPHA	7.50E+01	1.2E+01	1.6E+01	5.02E+00	pCi/g	100.00%	RD3214	
BETA	4.77E+01	3.4E+00	4.6E+00	2.60E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

41129114

MATRIX:

SOIL

CLIENT ID:

6720-014

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.57E+01	9.4E+00	1.2E+01	5.10E+00	pCi/g	100.00%	RD3214
BETA	3.74E+01	3.0E+00	3.9E+00	2.57E+00	pCi/g	100.00%	RD3214



BLANK RESULTS

LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

L112911B

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.09E-02	4.5E-02	4.5E-02	8.65E-02	pCi/sa	100.00%	RD3214
BETA	2.80E-01	2.6E-01	2.6E-01	5.23E-01	pCı/sa	100.00%	RD3214
U-LASER	2.63E+00	4.0E-01	4.0E-01	1.84E+00	UG/K	100.00%	RD4200



LABORATORY CONTROL SAMPLE

LAB NAME:

ITAS-RICHLAND

SDG:

3824

LAB SAMPLE ID:

L112911S

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVER'
ALPHA	7.45E+00	5.5E-01	2.0E+00	1.13E-01	pCi/sa	100.00%	8.14E+00	91.52%
BETA	7.32E+00	6.2E-01	8.0E-01	5.75E-01	pCi/sa	100.00%	8.14E+00	89.93%
U-LASER	8.21E+02	1.2E+02	1.2E+02	1.84E+00	UG/K	100.00%	9.05E+02	90.69%



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o Quanterra St. Louis 13715 Rider Trail North Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt

November 11, 1994

Number of Samples

Thirteen (13)

Sample Type
SDG Number

Ash

SDG Number

3824A

Data Deliverable

Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

OTESRL ID	OSL ID	Matrix	Date of Receipt
41129201	6765-001	Ash	11/11/94
41129202	6765-002	Ash	11/11/94
41129203	6765-003	Ash	11/11/94
41129204	6765-004	Ash	11/11/94
41129205	6765-005	Ash	11/11/94
41129206	6765-006	Ash	11/11/94
41129207	6765-007	Ash	11/11/94
41129208	6765-008	Ash	11/11/94
41129209	6765-009	Ash	11/11/94
41129210	6765-010	Ash	11/11/94
41129211	6765-011	Ash	11/11/94
41129212	6765-012	Ash	11/11/94
41129213	6765-013	Ash	11/11/94



Engineering Science December 3, 1994 SDG 3824A Page 2

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214 Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824A include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (3.95 to 5.34 pCi/gram), which exceed the RDL (3 pCi/gram).



Engineering Science December 3, 1994 SDG 3824A Page 3

Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

Total Uranium

Total Uranium by method ITAS-RD-4200

The blank and sample 6765-004 did not give good initial readings on the KPA. 5 ml of the prepped sample was dried, wet ashed and muffled. The reanalysis data of both samples is accepted and reported. All other aspects of the original data are within contractual requirements.

I certify that this Certificate of Analysis is complete. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:

Stephen L. Korenkiewicz

Project Manager



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services Richland Laboratory

Sample Delivery Group Number: 3824A

CLIENT ID NUMBER	QUANTERRA ID NUMBER
6765-001	41129201
6765-002	41129202
6765-003	41129203
6765-004	41129204
6765-005	41129205
6765-006	41129206
6765-007	41129207
6765-008	41129208
6765-009	41129209
6765-010	41129210
6765-011	41129211
6765-012	41129212
6765-013	41129213



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129201

MATRIX:

SOIL

CLIENT ID:

6765-001

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	34000000000000000000000000000000000000
ALPHA	5.20E+01	9.5E+00	1.3E+01	3.96E+00	pCi/g	100.00%	RD3214	
BETA	4.70E+01	3.4E+00	4.5E+00	2.64E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129202

MATRIX:

SOIL

CLIENT ID:

6765-002

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	SSS-SSS-SSS-SSS-SSS-SSS-SSS-SSS-SSS-SS
ALPHA	6.65E+01	1.1E+01	1.4E+01	5.13E+00	pCi/g	100.00%	RD3214	Market of Contract of the Cont
BETA	4.61E+01	3.3E+00	4.5E+00	2.47E+00	pCi/g	100.00%	RD3214	
U-LASER	1.97E+04	3.0E+03	3.0E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129203

MATRIX:

SOIL

CLIENT ID:

6765-003

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Anticles State Conference on the Conference on t
ALPHA	4.13E+01	8.9E+00	1.1E+01	5.33E+00	pCi/g	100.00%	RD3214	Constitution of the Consti
BETA	2.50E+01	2.6E+00	3.1E+00	2.78E+00	pCj/g	100.00%	RD3214	
U-LASER	1.65E+04	2.5E+03	2.5E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129204

MATRIX:

SOIL

CLIENT ID:

6765-004

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	esticationscondings
ALPHA	5.67E+01	1.1E+01	1.4E+01	5.13E+00	pCi/g	100.00%	RD3214	Managaran da Angel Com
BETA	4.06E+01	3.1E+00	4.1E+00	2.60E+00	pCi/g	100.00%	RD3214	
U-LASER	1.58E+05	2.4E+03	2.4E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129205

MATRIX:

SOIL

CLIENT ID:

6765-005

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	To BRADONS dies aus aus aus aus
ALPHA	6.18E+01	1.1E+01	1.4E+01	4.15E+00	pCi/g	100.00%	RD3214	Managarian and American
BETA	3.78E+01	3.0E+00	3.9E+00	2.57E+00	pCi/g	100.00%	RD3214	
U-LASER	1.53E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129206

MATRIX:

SOIL

CLIENT ID:

6765-006

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.86E+01	9.2E+00	1.3E+01	3.96E+00	pCi/g	100.00%	RD3214
BETA	4.41E+01	3.2E+00	4.4E+00	2.54E+00	pCi/g	100.00%	RD3214
U-LASER	1.84E+04	2.8E+03	2.8E+03	N/A	UG/K	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129207

MATRIX:

SOIL

CLIENT ID:

6765-007

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	łanczongou <u>sso</u> go u po
ALPHA	7.17E+01	1.1E+01	1.5E+01	5.12E+00	pCi/g	100.00%	RD3214	***************
BETA	4.71E+01	3.4E+00	4.5E+00	2.57E+00	pCi/g	100.00%	RD3214	
U-LASER	2.01E+04	3.0E+03	3.0E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129208

MATRIX:

SOIL

CLIENT ID:

6765-008

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ARRESTATION OF THE PROPERTY OF
ALPHA	6.03E+01	1.1E+01	1.5E+01	5.34E+00	pCi/g	100.00%	RD3214	MARKAN MARKAN
BETA	4.31E+01	3.2E+00	4.3E+00	2.48E+00	pCi/g	100.00%	RD3214	
U-LASER	1.65E+04	2.5E+03	2.5E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129209

MATRIX:

SOIL

CLIENT ID:

6765-009

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	OUTS OF STATE OF STAT
ALPHA	6.00E+01	1.1E+01	1.5E+01	5.13E+00	pCi/g	100.00%	RD3214	Negotianistation (Text Text Text Text Text Text Text Text
BETA	4.28E+01	3.2E+00	4.3E+00	2.78E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129210

MATRIX:

SOIL

CLIENT ID:

6765-010

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	personactivesopoor
ALPHA	6.94E+01	1.1E+01	1.5E+01	4.13E+00	pCi/g	100.00%	RD3214	minhodaucarusom
BETA	3.87E+01	3.1E+00	4.0E+00	2.61E+00	pCi/g	100.00%	RD3214	
U-LASER	1.61E+04	2.4E+03	2.4E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129211

MATRIX:

SOIL

CLIENT ID:

6765-011

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Daniera przeprzeprzepiski piecie kontroliczne in pro-
ALPHA	1.07E+02	1.4E+01	2.4E+01	3.96E+00	pCi/g	100.00%	RD3214	State Control of the
BETA	6.14E+01	3.8E+00	5.4E+00	2.57E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129212

MATRIX:

SOIL

CLIENT ID:

6765-012

DATE RECEIVED:

11/11/94

\$288040000000000000000000000000000000000		despitatorista reminentaristi interministi.	***************************************			White was the same of the same			
distributant construction of the state of th	ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	abilinisasi (alausea Horvinia vivinerio e
	ALPHA	5.35E+01	9.9E+00	1.2E+01	5.12E+00	pCi/g	100.00%	RD3214	P
	BETA	4.60E+01	3.3E+00	4.6E+00	2.54E+00	pCi/g	100.00%	RD3214	
	U-LASER	1.96E+04	3.0E+03	3.0E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

41129213

MATRIX:

SOIL

CLIENT ID:

6765-013

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.54E+01	1.1E+01	1.6E+01	5.33E+00	pCi/g	100.00%	RD3214
BETA	3.82E+01	3.1E+00	3.9E+00	2.58E+00	pCi/g	100.00%	RD3214
U-LASER	1.41E+04	2.1E+03	2.1E+03	N/A	UG/K	100.00%	RD4200



BLANK RESULTS

LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

L112921B

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	STATES CONTRACTOR AND A
ALPHA	1.00E-02	3.7E-02	3.7E-02	9.32E-02	pCi/sa	100.00%	RD3214	
BETA	2.57E-01	2.7E-01	2.7E-01	5.53E-01	pCi/sa	100.00%	RD3214	
U-LASER	6.95E-01	1.0E-01	1.0E-01	N/A	UG/K	100.00%	RD4200	



LABORATORY CONTROL SAMPLE

LAB NAME:

ITAS-RICHLAND

SDG:

3824A

LAB SAMPLE ID:

L112921S

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING TOTAL ERROR (2s) ERROR (2s)		MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	6.34E+00	5.0E-01	1.6E+00	1.26E-01	pCi/sa	100.00%	8.14E+00	77.89%
BETA	7.67E+00	6.2E-01	8.4E-01	5.28E-01	pCi/sa	100.00%	8.14E+00	94.23%
U-LASER	8.99E-01	1.4E-01	1.4E-01	N/A	UG/S	100.00%	9.03E-01	99.56%

Number of Results: 3

MSD 000148



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o Quanterra St. Louis 13715 Rider Trail North Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt

: November 11, 1994

Number of Samples

Thirteen (13)

Sample Type SDG Number Data Deliverable

Ash 3824B

Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

OTESRL ID	OSL ID	<u>Matrix</u>	Date of Receipt
41129301	6765-014	Ash	11/11/94
41129302	6765-015	Ash	11/11/94
41129303	6765-016	Ash	11/11/94
41129304	6765-017	Ash	11/11/94
41129305	6765-018	Ash	11/11/94
41129306	6765-019	Ash	11/11/94
41129307	6765-020	Ash	11/11/94
41129308	6765-021	Ash	11/11/94
41129309	6765-022	Ash	11/11/94
41129310	6765-023	Ash	11/11/94
41129311	6765-024	Ash	11/11/94
41129312	6765-025	Ash	11/11/94
41129313	6765-026	Ash	11/11/94



Engineering Science December 3, 1994 SDG 3824B Page 2

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214 Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824B include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS was recounted due to poor recovery on the initial count. The recount LCS and original batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (4.09 to 5.56 pCi/gram), which exceed the RDL (3 pCi/gram).



Engineering Science December 3, 1994 SDG 3824B Page 3

Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

Total Uranium

Total Uranium by method ITAS-RD-4200

The batch, including QC, was giving poor histograms on the KPA. 5 ml of each sample was dried, wet ashed, and muffled, then brought back into solution for reanalysis. The reanalysis data is accepted and reported. The blank result and achieved MDA are above the RDL. The data is accepted, however, since all samples have activities (13,035.544 μ g/kg - 23,151.367 μ g/kg) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:

Stephen L. Korenkiewicz

Project Manager



Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services Richland Laboratory

Sample Delivery Group Number: 3824B

QUANTERRA ID NUMBER
41129301
41129302
41129303
41129304
41129305
41129306
41129307
41129308
41129309
41129310
41129311
41129312
41129313



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129301

MATRIX:

SOIL

CLIENT ID:

6765-014

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Convito so del seguencio en es
ALPHA	3.97E+01	8.8E+00	1.1E+01	5.55E+00	pCi/g	100.00%	RD3214	Anna de Caracina d
BETA	4.41E+01	3.2E+00	4.4E+00	2.44E+00	pCi/g	100.00%	RD3214	
U-LASER	2.00E+04	3.0E+03	3.0E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129302

MATRIX:

SOIL

CLIENT ID:

6765-015

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.50E+01	1.0E+01	1.4E+01	5.37E+00	pCi/g	100.00%	RD3214
BETA	4.14E+01	3.2E+00	4.2E+00	2.79E+00	pCi/g	100.00%	RD3214
U-LASER	1.56E+04	2.3E+03	2.3E+03	N/A	UGM/	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129303

MATRIX:

SOIL

CLIENT ID:

6765-016

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	in a sea ann an Aireann ann an Aire
ALPHA	4.80E+01	9.6E+00	1.2E+01	5.23E+00	pCi/g	100.00%	RD3214	***************************************
BETA	4.35E+01	3.2E+00	4.3E+00	2.59E+00	pCi/g	100.00%	RD3214	
U-LASER	1.30E+04	2.0E+03	2.0E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129304

MATRIX:

SOIL

CLIENT ID:

6765-017

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	indectogoscopo que nto somi
ALPHA	4.21E+01	8.6E+00	1.1E+01	4.09E+00	pCi/g	100.00%	RD3214	Oran Essercia de Grance Sur a mu r
BETA	4.75E+01	3.4E+00	4.5E+00	2.62E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129305

MATRIX:

SOIL

CLIENT ID:

6765-018

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	1777 00 Tanàh Atanggan taon
ALPHA	4.66E+01	9.3E+00	1.1E+01	5.22E+00	pCi/g	100.00%	RD3214	Oddistr oja up osu v
BETA	4.27E+01	3.2E+00	4.3E+00	2.56E+00	pCi/g	100.00%	RD3214	
U-LASER	1.49E+04	2.2E+03	2.2E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129306

MATRIX:

SOIL

CLIENT ID:

6765-019

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	z 40 do 10 d
ALPHA	4.38E+01	9.2E+00	1.2E+01	5.54E+00	pCi/g	100.00%	RD3214	
BETA	4.93E+01	3.4E+00	4.7E+00	2.55E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129307

MATRIX:

SOIL

CLIENT ID:

6765-020

DATE RECEIVED:

11/11/94

ISO	TOPE RESU	COUNTIN JLT ERROR (2	i wind	8857 A	REPOR [®] UNIT	T YIELD	METHOD NUMBER	
ALP	HA 6.73E	+01 1.2E+0	1 1.6E+01	5.36E+0	0 pCi/g	100.00%	RD3214	
BET	A 4.74E	E+01 3.3E+0	0 4.6E+00	2.44E+0	0 pCi/g	100.00%	RD3214	
U-LA	SER 2.04E	+04 3.1E+0	3 3.1E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129308

MATRIX:

SOIL

CLIENT ID:

6765-021

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.56E+01	9.4E+00	1.2E+01	5.22E+00	pCi/g	100.00%	RD3214
BETA	4.10E+01	3.2E+00	4.1E+00	2.79E+00	pCi/g	100.00%	RD3214



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129309

MATRIX:

SOIL

CLIENT ID:

6765-022

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	MANAGE CONTRACTOR CONT
ALPHA	4.93E+01	9.3E+00	1.3E+01	4.09E+00	pCi/g	100.00%	RD3214	Constitution
BETA	4.29E+01	3.2E+00	4.3E+00	2.60E+00	pCi/g	100.00%	RD3214	
U-LASER	1.92E+04	2.9E+03	2.9E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129310

MATRIX:

SOIL

CLIENT ID:

6765-023

DATE RECEIVED:

11/11/94

Iso ⁻	OPE RESUL	COUNTIN T ERROR (2	10176	s) MDA	REPOR' UNIT	T YIELD	METHOD NUMBER	
ALP	HA 4.89E+	+01 9.5E+00	1.2E+01	5.22E+0	0 pCi/g	100.00%	RD3214	
BET	`A 3.58E+	+01 3.0E+00	3.8E+00	2.61E+00	0 pCi/g	100.00%	RD3214	
U-LA	SER 1.48E+	-04 2.2E+03	2.2E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129311

MATRIX:

SOIL

CLIENT ID:

6765-024

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	3.89E+01	8.7E+00	1.1E+01	5.56E+00	pCi/g	100.00%	RD3214	
BETA	4.13E+01	3.2E+00	4.2E+00	2.55E+00	pCi/g	100.00%	RD3214	
U-LASER	1.96E+04	2.9E+03	2.9E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129312

MATRIX:

SOIL

CLIENT ID:

6765-025

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	4.55E+01	9.5E+00	1.2E+01	5.37E+00	pCi/g	100.00%	RD3214	bolissiolopiidinb=nenno+in
BETA	4.37E+01	3.3E+00	4.3E+00	2.55E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

41129313

MATRIX:

SOIL

CLIENT ID:

6765-026

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	6.47E+01	1.1E+01	1.5E+01	5.23E+00	pCi/g	100.00%	RD3214
BETA	4.41E+01	3.2E+00	4.4E+00	2.45E+00	pCi/g	100.00%	RD3214
U-LASER	2.32E+04	3.5E+03	3.5E+03	N/A	UGM/	100.00%	RD4200



BLANK RESULTS

LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

L112931B

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	7.16E-03	3.3E-02	3.3E-02	8.59E-02	pCi/sa	100.00%	RD3214	
BETA	2.08E-01	2.5E-01	2.5E-01	5.21E-01	pCi/sa	100.00%	RD3214	
U-LASER	4.49E+00	6.7E-01	6.7E-01	N/A	UGM/	100.00%	RD4200	



LABORATORY CONTROL SAMPLE

LAB NAME:

ITAS-RICHLAND

SDG:

3824B

LAB SAMPLE ID:

L112931S

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	6.91E+00	5.1E-01	1.5E+00	1.09E-01	pCi/sa	100.00%	8.14E+00	84.89%
BETA	8.31E+00	6.5E-01	8.7E-01	5.32E-01	pCi/sa	100.00%	8.14E+00	102.09%
U-LASER	5.99E-01	1.0E-01	1.0E-01	N/A	ug/sa	100.00%	8.96E-01	66.85%



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o Quanterra St. Louis 13715 Rider Trail North Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt

November 11, 1994

Number of Samples

Thirteen (13)

Sample Type

Ash

SDG Number

3824C

Data Deliverable

Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

OTESRL ID 41129401 41129402 41129403 41129404 41129405 41129406 41129407 41129408	OSL ID 6765-027 6765-028 6765-029 6765-030 6765-031 6765-032 6765-033	Matrix Ash Ash Ash Ash Ash Ash Ash Ash	Date of Receipt 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94
		Ash	11/11/94
41129407	6765-033	Ash	11/11/94
41129409	6765-035	Ash	11/11/94 11/11/94
41129410 41129411	6765-036 6765-037	Ash Ash	11/11/94 11/11/94
41129412 41129413	6765-038 6765-039	Ash Ash	11/11/94 11/11/94



Engineering Science December 3, 1994 SDG 3824C Page 2

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214 Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824C include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS was recounted due to poor recovery on the initial count. The recount LCS and original batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (3.82 to 5.24 pCi/gram), which exceed the RDL (3 pCi/gram).



Engineering Science December 3, 1994 SDG 3824C Page 3

Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

Total Uranium

Total Uranium by method ITAS-RD-4200

The batch blank was giving poor readings on the KPA. 5 ml was dried, wet ashed and muffled, then brought back into solution for reanalysis. The reanalysis data is accepted and reported. The blank result and achieved MDA are above the RDL. The data is accepted, however, since all samples have activities (10,193.482 μ g/kg - 16,744.977 μ g/kg) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:

Stephen L. Korenkiewicz

Project Manager



Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services Richland Laboratory

Sample Delivery Group Number: 3824C

CLIENT ID NUMBER	QUANTERRA ID NUMBER
6765-027	41129401
6765-028	41129402
6765-029	41129403
6765-030	41129404
6765-031	41129405
6765-032	41129406
6765-033	41129407
6765-034	41129408
6765-035	41129409
6765-036	41129410
6765-037	41129411
6765-038	41129412
6765-039	41129413



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129401

MATRIX:

SOIL

CLIENT ID:

6765-027

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	area and a second a
ALPHA	4.15E+01	8.5E+00	1.1E+01	3.82E+00	pCi/g	100.00%	RD3214	
BETA	4.07E+01	3.1E+00	4.2E+00	2.62E+00	pCi/g	100.00%	RD3214	
U-LASER	1.60E+04	2.4E+03	2.4E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129402

MATRIX:

SOIL

CLIENT ID:

6765-028

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Anderson and the
ALPHA	5.74E+01	1.0E+01	1.3E+01	4.66E+00	pCi/g	100.00%	RD3214	
BETA	4.31E+01	3.3E+00	4.3E+00	2.72E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129403

MATRIX:

SOIL

CLIENT ID:

6765-029

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	4.75E+01	9.6E+00	1.2E+01	5.23E+00	pCi/g	100.00%	RD3214	
BETA	4.12E+01	3.2E+00	4.2E+00	2.63E+00	pCi/g	100.00%	RD3214	
U-LASER	1.02E+04	1.5E+03	1.5E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129404

MATRIX:

SOIL

CLIENT ID:

6765-030

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	6.11E+01	1.1E+01	1.5E+01	4.86E+00	pCi/g	100.00%	RD3214	77777000000000000000000000000000000000
BETA	5.45E+01	3.6E+00	5.1E+00	2.56E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129405

MATRIX:

SOIL

CLIENT ID:

6765-031

DATE RECEIVED: 11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	IDBBilliopobenggozurisko
ALPHA	5.23E+01	1.0E+01	1.3E+01	5.24E+00	pCi/g	100.00%	RD3214	Intermediate Andrews
BETA	4.18E+01	3.2E+00	4.2E+00	2.82E+00	pCi/g	100.00%	RD3214	
U-LASER	1.59E+04	2.4E+03	2.4E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129406

MATRIX:

SOIL

CLIENT ID:

6765-032

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.82E+01	8.2E+00	1.1E+01	3.83E+00	pCi/g	100.00%	RD3214
BETA	3.39E+01	2.9E+00	3.7E+00	2.62E+00	pCi/g	100.00%	RD3214
U-LASER	1.28E+04	1.9E+03	1.9E+03	N/A	UGM/	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129407

MATRIX:

SOIL

CLIENT ID:

6765-033

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	MIROSONIONI SERVICIONI
ALPHA	3.69E+01	8.3E+00	9.6E+00	4.65E+00	pCi/g	100.00%	RD3214	
BETA	3.50E+01	3.0E+00	3.7E+00	2.85E+00	pCi/g	100.00%	RD3214	

Number of Results: 2

MSD 000178



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129408

MATRIX:

SOIL

CLIENT ID:

6765-034

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	4.20E+01	9.0E+00	1.1E+01	5.23E+00	pCi/g	100.00%	RD3214	
BETA	3.44E+01	2.9E+00	3.8E+00	2.67E+00	pCi/g	100.00%	RD3214	
U-LASER	1.36E+04	2.1E+03	2.1E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129409

MATRIX:

SOIL

CLIENT ID:

6765-035

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	NEPSKAPABELANJA OFFICE
ALPHA	5.42E+01	1.0E+01	1.4E+01	4.88E+00	pCi/g	100.00%	RD3214	SOUTH PROCESSION
BETA	4.51E+01	3.3E+00	4.4E+00	2.69E+00	pCi/g	100.00%	RD3214	
U-LASER	1.43E+04	2.2E+03	2.2E+03	N/A	UGM/	100.00%	RD4200	

Number of Results: 3

.



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129410

MATRIX:

SOIL

CLIENT ID:

6765-036

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	MARKEN SES PANA ORESESPANA MANAGEMENT
ALPHA	3.37E+01	8.1E+00	9.6E+00	5.24E+00	pCi/g	100.00%	RD3214	00000000000000000000000000000000000000
BETA	3.50E+01	2.9E+00	3.8E+00	2.56E+00	pCi/g	100.00%	RD3214	
U-LASER	1.56E+04	2.3E+03	2.3E+03	N/A	UGM/	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129411

MATRIX:

SOIL

CLIENT ID:

6765-037

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.45E+01	8.8E+00	1.2E+01	3.82E+00	pCi/g	100.00%	RD3214
BETA	4.01E+01	3.2E+00	4.1E+00	2.83E+00	pCi/g	100.00%	RD3214
U-LASER	1.67E+04	2.5E+03	2.5E+03	N/A	UGM/	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129412

MATRIX:

SOIL

CLIENT ID:

6765-038

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.33E+01	8.9E+00	1.1E+01	4.67E+00	pCi/g	100.00%	RD3214
BETA	3.99E+01	3.1E+00	4.1E+00	2.61E+00	pCi/g	100.00%	RD3214
U-LASER	1.49E+04	2.2E+03	2.2E+03	N/A	UGM/	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

41129413

MATRIX:

SOIL

CLIENT ID:

6765-039

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	***************************************
ALPHA	6.08E+01	1.1E+01	1.5E+01	5.21E+00	pCi/g	100.00%	RD3214	Madaudassap_{eres} e<u>es</u>
BETA	4.73E+01	3.4E+00	4.6E+00	2.85E+00	pCi/g	100.00%	RD3214	



BLANK RESULTS

LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

L112941B

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.72E-01	9.1E-02	1.0E-01	1.11E-01	pCi/sa	100.00%	RD3214
BETA	1.14E-01	2.6E-01	2.6E-01	5.59E-01	pCi/sa	100.00%	RD3214
U-LASER	2.27E+00	3.4E-01	3.4E-01	N/A	UGM/	100.00%	RD4200



LABORATORY CONTROL SAMPLE

LAB NAME:

ITAS-RICHLAND

SDG:

3824C

LAB SAMPLE ID:

L112941S

MATRIX:

SOIL

СОЗНОСТВОООВЛЕНИИМ					×0000000000000000000000000000000000000				
elistobosingo yyinaangootto	ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
	ALPHA	7.25E+00	5.4E-01	2.0E+00	1.03E-01	pCi/sa	100.00%	8.15E+00	88.96%
	BETA	8.28E+00	6.6E-01	8.6E-01	5.74E-01	pCi/sa	100.00%	8.13E+00	101.85%
	U-LASER	2.98E+00	4.5E-01	4.5E-01	N/A	ug/sa	100.00%	2.99E+00	99.67%



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o Quanterra St. Louis 13715 Rider Trail North Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt

November 11, 1994

Number of Samples

Thirteen (13)

Sample Type SDG Number

Ash

Data Deliverable

3824D Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

OSL ID	Matrix	Date of Receipt
6765-040	Ash	11/11/94
6765-041	Ash	11/11/94
6765-042		11/11/94
6765-043		11/11/94
6765-044		11/11/94
		11/11/94
		11/11/94
		11/11/94
		11/11/94
		11/11/94
	Ash	11/11/94
6765-051	Ash	11/11/94
6765-052	Ash	11/11/94
	6765-040 6765-041 6765-042 6765-043 6765-044 6765-045 6765-046 6765-047 6765-048 6765-049 6765-050	6765-040 Ash 6765-041 Ash 6765-042 Ash 6765-043 Ash 6765-044 Ash 6765-045 Ash 6765-046 Ash 6765-047 Ash 6765-048 Ash 6765-049 Ash 6765-050 Ash 6765-051 Ash



Engineering Science December 3, 1994 SDG 3824D Page 2

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214 Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824D include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (3.82 to 5.23 pCi/gram), which exceed the RDL (3 pCi/gram).



Engineering Science December 3, 1994 SDG 3824D Page 3

Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

Total Uranium

Total Uranium by method ITAS-RD-4200

The blank result and achieved MDA are above the RDL. The data is accepted, however, since all samples have activities (13,032.484 μ g/kg - 20,138.547 μ g/kg) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:

Stephen L. Korenkiewicz

Project Manager



Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services Richland Laboratory

Sample Delivery Group Number: 3824D

CLIENT ID NUMBER QUANTERRA ID NUMBER 6765-040 41129501 6765-041 41129502 6765-042 41129503 6765-043 41129504 6765-044 41129505 6765-045 41129506 6765-046 41129507 6765-047 41129508 6765-048 41129509 6765-049 41129510 6765-050 41129511 6765-051 41129512 6765-052 41129513



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129501

MATRIX:

SOIL

CLIENT ID:

6765-040

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.13E+01	9.4E+00	1.3E+01	3.82E+00	pCi/g	100.00%	RD3214
BETA	4.43E+01	3.3E+00	4.4E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	2.01E+04	3.0E+03	3.0E+03	N/A	UG/K	100.00%	RD4200

Number of Results: 3

MSD 000191



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129502

MATRIX:

SOIL

CLIENT ID:

6765-041

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	nika aktoon
ALPHA	6.40E+01	1.1E+01	1.4E+01	4.65E+00	pCi/g	100.00%	RD3214	Minima de la companya de la company
BETA	5.04E+01	3.5E+00	4.8E+00	2.82E+00	pCi/g	100.00%	RD3214	
U-LASER	4.40E+04	6.6E+03	6.6E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129503

MATRIX:

SOIL

CLIENT ID:

6765-042

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	***************************************
ALPHA	4.98E+01	9.8E+00	1.3E+01	5.23E+00	pCi/g ^	100.00%	RD3214	***************************************
BETA	4.27E+01	3.2E+00	4.2E+00	2.62E+00	pCi/g	100.00%	RD3214	
U-LASER	1.60E+04	2.4E+03	2.4E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129504

MATRIX:

SOIL

CLIENT ID:

6765-043

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	gentricken de type gegen gegen verken de
ALPHA	4.01E+01	8.9E+00	1.1E+01	4.85E+00	pCi/g	100.00%	RD3214	NODDOGOOODS CONTRACTOR
BETA	3.67E+01	3.1E+00	3.9E+00	2.85E+00	pCi/g	100.00%	RD3214	

Number of Results: 2

MSD 000194



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129505

MATRIX:

SOIL

CLIENT ID:

6765-044

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ediki ediki kebada di panya ya cen
ALPHA	3.87E+01	8.7E+00	1.0E+01	5.23E+00	pCi/g	100.00%	RD3214	tdedilaatii Optomore Vyroena
BETA	3.47E+01	2.9E+00	3.8E+00	2.67E+00	pCi/g	100.00%	RD3214	
U-LASER	1.30E+04	2.0E+03	2.0E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129506

MATRIX:

SOIL

CLIENT ID:

6765-045

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.82E+01	1.0E+01	1.5E+01	3.82E+00	pCi/g	100.00%	RD3214
BETA	3.78E+01	3.1E+00	3.9E+00	2.69E+00	pCi/g	100.00%	RD3214
U-LASER	1.42E+04	2.1E+03	2.1E+03	N/A	UG/K	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129507

MATRIX:

SOIL

CLIENT ID:

6765-046

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	7.14E+01	1.1E+01	1.5E+01	4.65E+00	pCi/g	100.00%	RD3214	***************************************
BETA	4.59E+01	3.3E+00	4.5E+00	2.56E+00	pCi/g	100.00%	RD3214	
U-LASER	1.96E+04	2.9E+03	2.9E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129508

MATRIX:

SOIL

CLIENT ID:

6765-047

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	HHIOOGOOO, qogaqay kalaa
ALPHA	6.73E+01	1.1E+01	1.6E+01	5.22E+00	pCi/g	100.00%	RD3214	10000 жылын жай
BETA	4.97E+01	3.5E+00	4.7E+00	2.82E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129509

MATRIX:

SOIL

CLIENT ID:

6765-048

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	MMM bannaaaauuu uu
ALPHA	4.45E+01	9.4E+00	1.2E+01	4.87E+00	pCi/g	100.00%	RD3214	AN ANNO COLOR TO MARCO COLOR COLOR
BETA	3.76E+01	3.0E+00	3.9E+00	2.62E+00	pCi/g	100.00%	RD3214	
U-LASER	1.73E+04	2.6E+03	2.6E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129510

MATRIX:

SOIL

CLIENT ID:

6765-049

DATE RECEIVED:

11/11/94

eposeomali velenepos	ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	SHOWEN.
	ALPHA	5.36E+01	1.0E+01	1.3E+01	5.24E+00	pCi/g	100.00%	RD3214	No.
•	BETA	4.01E+01	3.2E+00	4.1E+00	2.85E+00	pCi/g	100.00%	RD3214	
	U-LASER	1.67E+04	2.5E+03	2.5E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129511

MATRIX:

SOIL

CLIENT ID:

6765-050

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.50E+01	8.9E+00	1.2E+01	4.35E+00	pCi/g	100.00%	RD3214
BETA	3.76E+01	3.0E+00	4.0E+00	2.67E+00	pCi/g	100.00%	RD3214
U-LASER	1.54E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129512

MATRIX:

SOIL

CLIENT ID:

6765-051

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	1000000
ALPHA	4.99E+01	9.6E+00	1.2E+01	5.00E+00	pCi/g	100.00%	RD3214	B*******
BETA	4.11E+01	3.2E+00	4.2E+00	2.69E+00	pCi/g	100.00%	RD3214	
U-LASER	1.55E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

41129513

MATRIX:

SOIL

CLIENT ID:

6765-052

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	3.88E+01	8.6E+00	1.1E+01	4.97E+00	pCi/g	100.00%	RD3214
BETA	3.90E+01	3.1E+00	4.0E+00	2.56E+00	pCi/g	100.00%	RD3214
U-LASER	1.41E+04	2.1E+03	2.1E+03	N/A	UG/K	100.00%	RD4200



BLANK RESULTS

LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

L112951B

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	RATIONER MANAGEMENT
ALPHA	1.41E-02	4.3E-02	4.3E-02	1.03E-01	pCi/sa	100.00%	RD3214	distance
BETA	8.77E-02	2.5E-01	2.5E-01	5.48E-01	pCi/sa	100.00%	RD3214	
U-LASER	2.29E+00	3.4E-01	3.4E-01	N/A	UG/K	100.00%	RD4200	



LABORATORY CONTROL SAMPLE

LAB NAME:

ITAS-RICHLAND

SDG:

3824D

LAB SAMPLE ID:

L112951S

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	6.71E+00	5.1E-01	1.6E+00	1.11E-01	pCi/sa	100.00%	8.15E+00	82.33%
BETA	7.85E+00	6.4E-01	8.4E-01	5.55E-01	pCi/sa	100.00%	8.14E+00	96.44%
U-LASER	2.92E+03	4.4E+02	4.4E+02	N/A	UG/K	100.00%	2.99E+03	97.66%



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o Quanterra St. Louis 13715 Rider Trail North Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt

November 11, 1994

Number of Samples

Thirteen (13)

Sample Type SDG Number Data Deliverable

Ash 3824E

: 5824E : Summary

I. Introduction

On November 11, 1994, thirteen ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

OTESRL ID 41129601 41129602 41129603 41129604 41129605 41129606 41129607 41129608 41129609 41129610 41129611 41129612	OSL ID 6765-053 6765-054 6765-055 6765-056 6765-057 6765-058 6765-059 6765-060 6765-061 6765-062 6765-063 6765-064	Matrix Ash	Date of Receipt 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94 11/11/94
41129612	6765-064	Ash	11/11/94
41129613	6765-065	Ash	11/11/94



Engineering Science December 3, 1994 SDG 3824E Page 2

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214 Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824E include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (3.95 to 5.38 pCi/gram), which exceed the RDL (3 pCi/gram).



Engineering Science December 3, 1994 SDG 3824E Page 3

Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

Total Uranium

Total Uranium by method ITAS-RD-4200

The blank result and achieved MDA are above the RDL. The data is accepted, however, since all samples have activities (11,760.265 μ g/kg - 22,171.699 μ g/kg) greater than 5 times the possible contamination level of the blank and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:

Stephen L. Korenkiewicz

Project Manager



Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services Richland Laboratory

Sample Delivery Group Number: 3824E

CLIENT ID NUMBER	QUANTERRA ID NUMBER
6765-053	41129601
6765-054	41129602
6765-055	41129603
6765-056	41129604
6765-057	41129605
6765-058	41129606
6765-059	41129607
6765-060	41129608
6765-061	41129609
6765-062	41129610
6765-063	41129611
6765-064	41129612
6765-065	41129613



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129601

MATRIX:

SOIL

CLIENT ID:

6765-053

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	5.27E+01	1.0E+01	1.3E+01	5.38E+00	pCi/g	100.00%	RD3214	
BETA	3.79E+01	3.0E+00	3.9E+00	2.51E+00	pCi/g	100.00%	RD3214	
U-LASER	1.37E+04	2.1E+03	2.1E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129602

MATRIX:

SOIL

CLIENT ID:

6765-054

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	HONOO OO LAAGAAA
ALPHA	3.66E+01	8.4E+00	1.0E+01	4.46E+00	pCi/g	100.00%	RD3214	Third to be a second or s
BETA	3.74E+01	3.0E+00	3.9E+00	2.55E+00	pCi/g	100.00%	RD3214	
U-LASER	1.18E+04	1.8E+03	1.8E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129603

MATRIX:

SOIL

CLIENT ID:

6765-055

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	olektriteterekter e
ALPHA	4.30E+01	8.7E+00	1.2E+01	3.95E+00	pCi/g	100.00%	RD3214	
BETA	4.35E+01	3.2E+00	4.4E+00	2.56E+00	pCi/g	100.00%	RD3214	
U-LASER	1.47E+04	2.2E+03	2.2E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129604

MATRIX:

SOIL

CLIENT ID:

6765-056

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	40000000000000000000000000000000000000
ALPHA	3.01E+01	7.5E+00	8.5E+00	4.42E+00	pCi/g	100.00%	RD3214	Parameter Control
BETA	4.46E+01	3.3E+00	4.4E+00	2.52E+00	pCi/g	100.00%	RD3214	
U-LASER	1.81E+04	2.7E+03	2.7E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129605

MATRIX:

SOIL

CLIENT ID:

6765-057

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	5.05E+01	9.8E+00	1.3E+01	4.86E+00	pCi/g	100.00%	RD3214
BETA	4.85E+01	3.4E+00	4.7E+00	2.52E+00	pCi/g	100.00%	RD3214
U-LASER	2.22E+04	3.3E+03	3.3E+03	N/A	UG/K	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129606

MATRIX:

SOIL

CLIENT ID:

6765-058

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	. Action de Calendario de Cale
ALPHA	3.51E+01	8.4E+00	1.0E+01	5.38E+00	pCi/g	100.00%	RD3214	Market State of Species
BETA	4.42E+01	3.3E+00	4.3E+00	2.53E+00	pCi/g	100.00%	RD3214	
U-LASER	1.54E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129607

MATRIX:

SOIL

CLIENT ID:

6765-059

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	1.06E+02	1.4E+01	2.1E+01	4.46E+00	pCi/g	100.00%	RD3214
BETA	7.19E+01	4.0E+00	6.2E+00	2.51E+00	pCi/g	100.00%	RD3214
U-LASER	2.83E+04	4.2E+03	4.2E+03	N/A	UG/K	100.00%	RD4200



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129608

MATRIX:

SOIL

CLIENT ID:

6765-060

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	MOUNTAIN
ALPHA	4.19E+01	8.6E+00	1.2E+01	3.97E+00	pCi/g	100.00%	RD3214	Pistensyn,
BETA	4.21E+01	3.2E+00	4.2E+00	2.55E+00	pCi/g	100.00%	RD3214	
U-LASER	1.72E+04	2.6E+03	2.6E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129609

MATRIX:

SOIL

CLIENT ID:

6765-061

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	MACCO CONTRACTOR CONTR
ALPHA	4.30E+01	8.9E+00	1.1E+01	4.41E+00	pCi/g	100.00%	RD3214	Singuistan and Singui
BETA	3.91E+01	3.1E+00	4.1E+00	2.56E+00	pCi/g	100.00%	RD3214	
U-LASER	1.55E+04	2.3E+03	2.3E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129610

MATRIX:

SOIL

CLIENT ID:

6765-062

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Tarak engann
ALPHA	4.88E+01	9.7E+00	1.3E+01	4.86E+00	pCi/g	100.00%	RD3214	Bross
BETA	4.87E+01	3.4E+00	4.6E+00	2.51E+00	pCi/g	100.00%	RD3214	
U-LASER	2.20E+04	3.3E+03	3.3E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129611

MATRIX:

SOIL

CLIENT ID:

6765-063

DATE RECEIVED:

11/11/94

ISOTO	PE RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Georgia de la cons ervação de la conservação de la conservação de la conservação de la conservação de la conserva
ALPHA	3.51E+01	8.4E+00	1.0E+01	5.39E+00	pCi/g	100.00%	RD3214	PWW.
BETA	4.11E+01	3.2E+00	4.2E+00	2.52E+00	pCi/g	100.00%	RD3214	
U-LASE	R 1.77E+04	2.7E+03	2.7E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129612

MATRIX:

SOIL

CLIENT ID:

6765-064

DATE RECEIVED:

11/11/94

Іѕото	PE RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	5.59E+01	1.0E+01	1.3E+01	4.44E+00	pCi/g	100.00%	RD3214	OTTORIO DE SERVICIO DE LA CONTRACTORIO DE LA CONTRA
BETA	4.35E+01	3.3E+00	4.3E+00	2.86E+00	pCi/g	100.00%	RD3214	
U-LASE	R 1.81E+04	2.7E+03	2.7E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

41129613

MATRIX:

SOIL

CLIENT ID:

6765-065

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.62E+01	9.1E+00	1.2E+01	5.03E+00	pCi/g	100.00%	RD3214
BETA	4.54E+01	3.3E+00	4.4E+00	2.51E+00	pCi/g	100.00%	RD3214
U-LASER	1.35E+04	2.0E+03	2.0E+03	N/A	UG/K	100.00%	RD4200



BLANK RESULTS

LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

L112961B

MATRIX:

SOIL

	annenation opposition in the particular and the par	00000000000000000000000000000000000000						
ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ABBOOKESKIP BBBBCKANUON
ALPHA	-1.30E-02	2.3E-02	2.3E-02	0.000.00	A-,		106:00000000000000000000000000000000000	Quarte of particular provinces and a second
		Anni When Was	2.36-02	9.23E-02	pCi/sa	100.00%	RD3214	
BETA	1.79E-01	2.5E-01	2.5E-01	E 0 1 = 0 1				
		40.44m.41	2.56-01	5.34E-01	pCi/sa	100.00%	RD3214	
U-LASER	3.60E+01	5.4E+00	5.4E+00					
		J.7L F00	3.4€*00	N/A	UG/K	100.00%	RD4200	



LABORATORY CONTROL SAMPLE

LAB NAME:

ITAS-RICHLAND

SDG:

3824E

LAB SAMPLE ID:

L112961S

MATRIX:

SOIL

occopy contraction of a contraction of the contract			***************************************					
ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	5.91E+00	4.8E-01	1.6E+00	1.02E-01	pCi/sa	100.00%	8.15E+00	70 500
BETA	8.43E+00	6.6E-01	8.8E-01	5.93E-01	pCi/sa	100.00%	8.06E+00	72.52% 104.59%
U-LASER	2.76E+00	4.2E-01	4.2E-01	N/A	UG/S	100.00%	2.99E+00	92.31%



Quanterra Incorporated 2800 George Washington Way Richland, Washington 99352

509 375-3131 Telephone 509 375-5590 Fax

CERTIFICATE OF ANALYSIS

Engineering Science c/o Quanterra St. Louis 13715 Rider Trail North Earth City, MO 63045

December 3, 1994

Attention: Wade Price

Date of Receipt

November 11, 1994

Number of Samples Sample Type SDG Number Four (4)

Ash 3824F

Data Deliverable

Summary

I. Introduction

On November 11, 1994, four ash samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Quanterra St. Louis (QSL) specific IDs:

ID Matrix	Date of Receipt
)66 Ash	11/11/94
)67 Ash	11/11/94
)68 Ash	11/11/94
69 Ash	11/11/94
	066 Ash 067 Ash 068 Ash

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.



Engineering Science December 3, 1994 SDG 3824F Page 2

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214 Gross Beta by method ITAS-RD-3214

Total Uranium

Total Uranium by method ITAS-RD-4200

III. Quality Control

The analytical results for each analysis performed under SDG 3824F include a minimum of one Laboratory Control Sample (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

Quality control sample results for Gross Alpha and Gross Beta are reported as pCi/sample. Quality control sample results for Total Uranium are reported in the same units as the samples.

IV. Comments

These samples were not screened, as per advice from St. Louis. The report also lists the matrix as "soil". However, they were "ash" samples, as indicated by the COC.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3214

The LCS and batch blank results are within contractual limits. Activity for all samples exceed the achieved MDA's (4.29 to 5.55 pCi/gram), which exceed the RDL (3 pCi/gram).



Engineering Science December 3, 1994 SDG 3824F Page 3

Gross Beta by method ITAS-RD-3214

The LCS, batch blank, and sample results are within contractual limits.

Total Uranium

Total Uranium by method ITAS-RD-4200

The lifetime reading of the batch blank after standard addition was less than the desired 150.00 μg . In order to get an accurate result on the KPA, the lifetime has to be ≥ 150.00 μg . The R² reading is less than the optimum .955 as well. It is our technical opinion to call the blank "lost" since we cannot guarantee an accurate result for the blank. The data is accepted, however, since all samples have activities (11,894.541 $\mu g/kg - 17,471.857 \mu g/kg$) significantly greater than any possible blank contamination and the LCS is within contractual requirements.

I certify that this Certificate of Analysis is complete.. Release of the data contained in this hard copy data package has been authorized by the Project Manager or a designee, as verified by the following signature.

Reviewed and approved:

Stephen L. Korenkiewicz

Project Manager



Analytical Data Package Prepared For

Engineering Science

Radiochemical Analysis By

Quanterra Environmental Services Richland Laboratory

Sample Delivery Group Number: 3824F

CLIENT ID NUMBER	QUANTERRA ID NUMBER
6765-066	41129701
6765-067	41129702
6765-068	41129703
6765-069	41129704



LAB NAME:

ITAS-RICHLAND

SDG:

3824F

LAB SAMPLE ID:

41129701

MATRIX:

SOIL

CLIENT ID:

6765-066

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	Miche
ALPHA	4.20E+01	9.1E+00	1.1E+01	5.14E+00	pCi/g	100.00%	RD3214	ODO:
BETA	4.12E+01	3.2E+00	4.1E+00	2.52E+00	pCi/g	100.00%	RD3214	
U-LASER	1.75E+04	2.6E+03	2.6E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824F

LAB SAMPLE ID:

41129702

MATRIX:

SOIL

CLIENT ID:

6765-067

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	2000 - Parigue pues
ALPHA	3.14E+01	7.8E+00	9.1E+00	4.29E+00	pCi/g	100.00%	RD3214	
BETA	3.66E+01	3.0E+00	3.9E+00	2.59E+00	pCi/g	100.00%	RD3214	
U-LASER	1.19E+04	1.8E+03	1.8E+03	N/A	UG/K	100.00%	RD4200	



LAB NAME:

ITAS-RICHLAND

SDG:

3824F

LAB SAMPLE ID:

41129703

MATRIX:

SOIL

CLIENT ID:

6765-068

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	4.16E+01	8.6E+00	1.2E+01	5.04E+00	pCi/g	100.00%	RD3214	and the second second second
BETA	3.80E+01	3.1E+00	3.9E+00	2.81E+00	pCi/g	100.00%	RD3214	



LAB NAME:

ITAS-RICHLAND

SDG:

3824F

LAB SAMPLE ID:

41129704

MATRIX:

SOIL

CLIENT ID:

6765-069

DATE RECEIVED:

11/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
ALPHA	4.35E+01	9.0E+00	1.1E+01	5.56E+00	pCi/g	100.00%	RD3214
BETA	4.16E+01	3.2E+00	4.2E+00	2.53E+00	pCi/g	100.00%	RD3214
U-LASER	1.35E+04	2.0E+03	2.0E+03	N/A	UG/K	100.00%	RD4200



BLANK RESULTS

LAB NAME:

ITAS-RICHLAND

SDG:

3824F

LAB SAMPLE ID:

L112971B

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	
ALPHA	-3.72E-03	4.1E-02	4.1E-02	1.16E-01	pCi/sa	100.00%	RD3214	OOKSOU GARRANDO STANION *
BETA	2.81E-01	2.6E-01	2.6E-01	5.37E-01	pCi/sa	100.00%	RD3214	
U-LASER	0.00E+00	0.0E+00	0.0E+00	N/A	UG/K	100.00%	RD4200	



LABORATORY CONTROL SAMPLE

LAB NAME:

ITAS-RICHLAND

SDG:

3824F

LAB SAMPLE ID:

L112971S

MATRIX:

SOIL

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	6.91E+00	5.2E-01	1.9E+00	1.03E-01	pCi/sa	100.00%	8.16E+00	84.68%
BETA	7.56E+00	6.1E-01	8.3E-01	5.21E-01	pCi/sa	100.00%	8.05E+00	93.91%
U-LASER	2.91E+03	4.4E+02	4.4E+02	N/A	UG/K	100.00%	2.99E+03	97.32%



Category: Gross Alpha-Beta Method: EPA 900.0 Matrix: Solid

Project: 135.08

Report Date: 02/02/95 Date Sampled: 01/04/95 Date Received: 01/04/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA	***************************************
BG-ASH-1	7254-001	Gross Alpha	01/12/95	01/12/95	24.8	PCI/G	3.8	2.7	Management
BG-ASH-1	7254-001	Gross Beta	01/12/95	01/12/95	31.1	PCI/G	3.4	1.6	



Category: Gross Alpha-Beta Method: EPA 900.0 Matrix: Solid

Project: 135.08

Report Date: 02/02/95 Date Sampled: 01/04/95 Date Received: 01/04/95

m			-		*****			
Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
BG-ASH-2	7254-002	Gross Alpha	01/12/95	01/12/95	25.6	PCI/G	3.5	2.0
BG-ASH-2	7254-002	Gross Beta	01/12/95	01/12/95	30.1	PCI/G	3.2	1.3



Category: Gross Alpha-Beta Method: EPA 900.0 Matrix: Solid

Project: 135.08

Report Date: 02/02/95 Date Sampled: 01/04/95 Date Received: 01/04/95

								,, , ,	
Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA	
BG-ASH-3	7254-003	Gross Alpha	01/12/95	01/12/95	30.4	001.00			
BG-ASH-3	7254-003	0		- 1, 12, 72	30.4	PCI/G	4.1	1.9	
	, 534,003	Gross Beta	01/12/95	01/12/95	33.0	PCI/G	3.5	1.4	



Category: Gross Alpha-Beta Method: EPA 900.0 Matrix: Solid

Project: 135.08

Report Date: 02/02/95 Date Sampled: N/A Date Received: N/A

					TNO NO TO THE TOTAL PROPERTY OF THE TOTAL PR			
Client	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK56357-1	Gross Alpha	01/12/95	01/12/95	-0.66	PCI/G	1.42	2.13
NA	QCBLK56357-1	Gross Beta	01/12/95	01/12/95	0.54	PCI/G	1.00	1.61

Category: Gross Alpha-Beta Method: EPA 900.0 Matrix: Solid

Project: 135.08

Report Date: 02/02/95 Date Sampled: N/A Date Received: N/A

								• 47.4	
Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA	
NA	QCLCS56357-1	Gross Alpha	01/12/95	01/12/95	156	%REC			MVARATE COLUMN 1994
NA	QCLCS56357-1	Gross Beta	01/12/95	01/12/95	110	%REC			

APPENDIX C LABORATORY REPORTS FOR TOTAL METALS ANALYSES



Quanterra Incorporated 13715 Rider Trail North Earth City, Missouri 63045

314 298-8566 Telephone 314 298-8757 Fax

CERTIFICATE OF ANALYSIS

Engineering Science 400 Woods Mill Road Suite 300 Chesterfield, MO 63017

December 21, 1994

Attention: Mr. Lee Gorday

Project number

135.08

Date Received by Lab

October 31 and November 4, 1994

Number of Samples

Eighty-three (83)

Sample Type

Solid

Subcontract Number

726589-S-001

I. Introduction

On October 31 and November 4, 1994, eighty-three (83) sollid samples were received by Quanterra, St. Louis from Engineering Science analyses. The results of these analyses, along with supporting quality control data and custody documents, are included in the attached report. Upon receipt at the laboratory, the samples were given the following laboratory ID numbers to correspond with its specific client ID's:

CLIENT ID	St. Louis ID
SB01-SS1-2-4	6720-001
SB-01-SS3-6-8	6720-002
SB-01-SS4-14-16	6720-003
SB-02-SS1-2-4	6720-004
SB02-SS3-8-9.5	6720-004
SB-03-SS1-2-4	
SB-04-SS1-2-4	6720-006
SB05-SS2-6-8	6720-007
	6720-008
SB-01-SS2-4-6	6720-009
SB02-SS2-6-8	6720-010
SB-03-SS2-4-6	6720-011
SB-04-SS2-6-7	6720-012
SB-04-SS3-9-10	6720-013
SB05-SS1-2-4	6720-014
SB-06-SS1-2-4	
SB-06-SS2-6-8	6765-001
	6765-002
SB-06-SS3-13-14	6765-003



Engineering Science December 21, 1994 Project Number 135.08 page 2

CLIENT ID SB-07-SS1-2-4 SB-07-SS2-4-6 SB-09-SS1-0-2 SB-09-SS2-6-8 SB-08-SS1-0-2 SB-08-SS2-6-8 SB-08-SS4-16-18 SB-10-SS1-2-4 SB-10-SS2-6-8 SB-11-SS1-0-2 SB-11-SS2-4-6 SB-11-SS3-8-9 SB-12-SS1-0-2 SB-12-SS2-2-4 SB-12-SS3-8-9 SB-12-SS4-10-12 SB-13-SS1-0-2 SB-13-SS2-6-8 SB-13-SS3-8-10 SB-14-SS1-0-2 SB-14-SS2-4-6 SB-14-SS3-8-10 SB-15-SS1-2-4 SB-15-SS2-6-8 SB-15-SS3-8-9 SB-20-SS1-0-2 SB-20-SS2-4-6 SB-20-SS3-8-9 SB-19-SS1-0-2 SB-19-SS2-4-6 SB-19-SS3-6-8 SB-23-SS1-2-4 SB-23-SS2-6-8 SB-22-SS1-2-4 SB-22-SS2-6-7 SB-18-SS1-2-4 SB-18-SS2-4-6 SB-18-SS3-6-8 SB-16-SS1-0-2 SB-16-SS2-4-6 SB-16-SS3-8-9 SB-16-SS4-10-12 SB-17-SS1-2-4 SB-17-SS2-4-6 SB-17-SS3-6-8 SB-25-SS1-2-4 SB-25-SS2-6-8 SB-24-SS1-2-4 SB-24-SS2-6-8 SB-27-SS1-2-4 SB-27-SS2-6-8 SB-29-SS1-2-4

St. Louis ID 6765-004 6765-005 6765-006 6765-007 6765-008 6765-009 6765-010 6765-011 6765-012 6765-013 6765-014 6765-015 6765-016 6765-017 6765-018 6765-019 6765-020 6765-021 6765-022 6765-023 6765-024 6765-025 6765-026 6765-027 6765-028 6765-029 6765-030 6765-031 6765-032 6765-033 6765-034 6765-035 6765-036 6765-037 6765-038 6765-039 6765-040 6765-041 6765-042 6765-043 6765-044 6765-045 6765-046 6765-047 6765-048 6765-049 6765-050 6765-051 6765-052 6765-053 6765-054 6765-055



Engineering Science December 21, 1994 Project Number 135.08 page 3

77 FFF 100	
CLIENT ID	St. Louis ID
SB-29-SS2-4-6	6765-056
SB-28-SS1-2-4	6765-057
SB-28-SS2-6-8	6765-058
SB-26-SS1-4-6	6765-059
SB-26-SS2-6-8	6765-060
SB-31-SS1-2-4	6765-061
SB-31-SS2-6-8	6765-062
SB-32-SS1-2-4	6765-063
SB-32-SS2-6-8	6765-064
SB-30-SS1-2-4	6765-065
SB-30-SS2-6-8	6765-066
SB-33-SS1-0-2	6765-067
SB-33-SS2-4-6	6765-068
SB-33-SS3-8-10	6765-069
	0,02,00

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information, analytical results, and the appropriate detection limits.

The analysis requested included:

ICP metals by EPA method 6010. Gross Alpha/Beta by EPA method 900.0 and Radium 226/228 by EPA method 904.0 analyzed by Quanterra, Richland. Radon analysis performed by Radon Detection Systems.

III. Quality Control

The Quality Assurance/Quality Control (QA/QC) information supporting this analysis can be found immediately following the analytical data. These data are used to assess the laboratory's precision and accuracy during the analytical procedure.

IV. Comments

All Radionucleide analyses were performed at the Richland Laboratory and are sent along with this report. The Radon analysis is also included in this package.



Engineering Science December 21, 1994 Project Number 135.08 page 4

Low level Aluminum (1.428 mg/L) and Iron (0.6023 mg.L) contamination was detected in the ICP prep blank (PBS52266). However, all the sample results associated with this prep blank were reported since all the sample readings were more than 10 times the contamination level.

I certify that this Certificate of Analysis is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Reviewed and approved:

Wade H. Price Project Manager

e:\\squnl01\wadeprice\$\abbydave\engscien.coa

Quanterra
Environmental
Services

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB01 SS1-2-4

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	27500	MG/KG		26.0	4
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	19.0	MG/KG		13.0	
Arsenic	7440-38-2	QC8LK52261-1	11/23/94	12/07/94	13.6	MG/KG		0.39	
Barium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	3600	-			1
Beryllium	7440-41-7	QC8LK52261-1	11/23/94	12/05/94		MG/KG		26.0	1
Cacimium	7440-43-9	QCBLK52261-1	11/23/94		2.6	MG/KG		0.091	1
Catcium	7440-70-2	QC8LK52261-1		12/05/94	16.2	MG/KG		2.6	1
Chromium	7440-47-3		11/23/94	12/05/94	71200	MG/KG		651	1
Cobalt		QCBLX52261-1	11/23/94	12/05/94	398	MG/KG		2.6	1
	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	16.8	MG/KG		2.6	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	472	MG/KG		2.6	1
Iron	7439-89-6	QC8LK52261-1	11/23/94	12/06/94	41300	MG/KG		65.1	5
Lead	7439-92-1	QC8LK52261-1	11/23/94	12/07/94	418	MG/KG		0.39	•
Magnes i um	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	5830	MG/KG		651	,
Manganese	7439-96-5	QC8LK52261-1	11/23/94	12/05/94	542	MG/KG		1.3	4
Nickel	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	104				
Potassium	7440-09-7	QCBLK52261-1	11/23/94			MG/KG		5.2	1
Silver	7440-22-4	QCBLK52261-1		12/05/94	4170	MG/KG		651	1
Sodium	7440-23-5		11/23/94	12/05/94	ND	MG/KG		26.0	1
Vanadium		QCBLK52261-1	11/23/94	12/05/94	2450	MG/KG		130	1
Zinc	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	118	MG/KG		2.6	1
4.11%	7440-66-6	QC8LK52261-1	11/23/94	12/05/94	2360	MG/KG		2.6	1

QuanterraEnvironmental
Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-01-\$\$3-6-8

Project: 135.08

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

North Property and Control	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
	Aluminum Antimony	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	28800	MG/KG		29.7	1
Ģ.	Arsenic	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	29.8	MG/KG		14.9	1
diam'r.		7440-38-2	QCBLK52261-1	11/23/94	12/07/94	12.7	MG/KG		0.45	i
1	8arium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3470	MG/KG		29.7	i
ž	Beryllium	7440-41-7	QC8LK52261-1	11/23/94	12/05/94	2.8	MG/KG		0.10	į
	Cadmium	7440-43-9	QC8LK52261-1	11/23/94	12/05/94	17.1	MG/KG		3.0	<u> </u>
39	Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	64500	MG/KG		743	•
90.00	Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	407	MG/KG		3.0	1
Outro	Cobalt	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	17.5	MG/KG		3.0	, 1
-	Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	470	MG/KG		3.0	<u>;</u>
	Iron	7439-89-6	QC8LK52261-1	11/23/94	12/06/94	43100	MG/KG		74.3	5
i i	Lead	7439-92-1	QC8LK52261-1	11/23/94	12/07/94	456	MG/KG		0.45	,
ĺ	Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	5830	MG/KG		743	1
	Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	533	MG/KG		1.5	<u> </u>
	Nickel	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	111	MG/KG		5.9	.
	Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4520	MG/KG		743	
	Silver	7440-22-4	QCBLX52261-1	11/23/94	12/05/94	ND	MG/KG		29.7	i 4
	Sodium	7440-23-5	QC8LK52261-1	11/23/94	12/05/94	2430	MG/KG		149	1
	Vanadium		QCBLK52261-1	11/23/94	12/05/94	121	MG/KG			1
	Zinc		QCBLK52261-1	11/23/94	12/05/94	2500	-		3.0	
				(1/62/74	16/03/74	000	MG/KG		3.0	1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-01-\$\$4-14-16

Project: 135.08

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Pacul +	Unit	Orial	Detection Limit	Dilution
	100 100 12 000100000 1			*****	Nesat t	. OIII C	ACTOR C	E imi C	DITGC: OI
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27400	MG/KG	-	26.2	1
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		13.1	i
Arsenic	7440-38-2	QC8LK52261-1	11/23/94	12/07/94	17.0	MG/KG		0.39	į
Barium .	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	3710	MG/KG		26.2	i
Beryllium .	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.5	MG/KG		0.092	i
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	15.3	MG/KG		2.6	÷
Calcium	7440-70-2	QC8LK52261-1	11/23/94	12/05/94	78400	MG/KG		655	į
Chromium	7440-47-3	QC8LK52261-1	11/23/94	12/05/94	405	MG/KG		2.6	•
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.2	MG/KG		2.6	,
Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	471	MG/KG		2.6	1
(ron	7439-89-6	QC8LK52261-1	11/23/94	12/06/94	41600	MG/KG		65.5	ģ
.ead	7439-92-1	QCBLX52261-1	11/23/94	12/07/94	408	MG/KG		0.39	1
lagnes i um	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6200	MG/KG		655	i
fanganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	549	MG/KG		1.3	į
lickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	108	MG/KG		5.2	i
Potassium	7440-09-7	QC8LK52261-1	11/23/94	12/05/94	4350	MG/KG		655	i
lilver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		26.2	i
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2310	MG/KG		131	i
/anadium	7440-62-2	QC8LK52261-1	11/23/94	12/05/94	109	MG/KG		2.6	i
linc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2530	MG/KG		2.6	1

EnvironmentalServices

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: S8-02-SS1-2-4

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	llnit	Oual	Detection Limit	Dilution
Aluminum					110001	W111 G		£ 5188 €	UI (GCIGI)
	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27700	MG/KG	***************************************	27.7	1
Antimony	7440-36-0	QC8LK52261-1	11/23/94	12/05/94	29.9	MG/KG		13.8	i
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	13.9	MG/KG		0.42	;
Barium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	3860	MG/KG		27.7	1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.7				; a
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94		MG/KG		0.097	1
Calcium	7440-70-2	QC8LK52261-1	11/23/94		16.2	MG/KG		2.8	1
Chromium	7440-47-3	QCBLK52261-1		12/05/94	71400	MG/KG		692	1
Cobalt	7440-48-4		11/23/94	12/05/94	403	MG/KG		2.8	1
Copper		QCBLK52261-1	11/23/94	12/05/94	17.7	MG/KG		2.8	1
Iron	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	480	MG/KG		2.8	1
Lead	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	42500	MG/KG		69.2	5
	7439-92-1	QC8LK52261-1	11/23/94	12/07/94	460	MG/KG		0.42	1
Magnesium	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	6060	MG/KG		692	1
Manganese	7439-96-5	QC8LK52261-1	11/23/94	12/05/94	559	MG/KG		1.4	i
Nickel	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	108	MG/KG		5.5	į
Potassium	7440-09-7	QC8LK52261-1	11/23/94	12/05/94	4190	MG/KG		692	<u>,</u>
Silver	7440-22-4	QC8LK52261-1	11/23/94	12/05/94	ND	MG/KG		27.7	.
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2430				
Vanadium	7440-62-2	QCBLK52261-1	11/23/94			MG/KG		138	l
Zinc	7440-66-6	QC8LK52261-1		12/05/94	119	MG/KG		2.8	1
	1440-00-0	ACDEV35501-1	11/23/94	12/05/94	2500	MG/KG		2.8	1

WuanterraEnvironmental
Services

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$802-\$\$3-8-9.5

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobelt Copper Iron Lead Magnesium Manganese Nickel Potassium Silver Sodium Vanadium	7429-90-5 7440-38-2 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-96-5 7440-02-0 7440-02-0 7440-22-4 7440-23-5 7440-66-6	QCBLK52261-1	11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94	12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94	27500 22.4 13.7 3580 2.7 20.1 70200 407 17.5 468 37300 465 5760 545 109 4230 ND 2450 124 2660	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG		31.8 15.9 0.48 31.8 0.11 3.2 796 3.2 3.2 15.9 0.48 796 1.6 6.4 796 31.8 159 3.2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-03-\$\$1-2-4

Project: 135.08

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	29100	MG/KG	-	373	***************************************
Antimony	7440-36-0	QC8LK52261-1	11/23/94	12/05/94	17.5			27.2	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94		MG/KG		13.6]
Barium	7440-39-3	QCBLK52261-1	11/23/94		13.1	MG/KG		0.41	1
8eryllium	7440-41-7	QCBLK52261-1		12/05/94	3100	MG/KG		27.2	1
Cadmium	7440-43-9	9C8LK52261-1	11/23/94	12/05/94	2.8	MG/KG		0.095	1
Calcium			11/23/94	12/05/94	20.1	MG/KG		2.7	1
Chromium	7440-70-2	QC8LK52261-1	11/23/94	12/05/94	82600	MG/KG		679	1
Cobalt	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	408	MG/KG		2.7	1
	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	17.3	MG/KG		2.7	i
Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	423	MG/KG		2.7	•
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	42400	MG/KG		67.9	ģ
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	502	MG/KG		0.41	
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6290	MG/KG			1
Manganese	7439-96-5	QC8LX52261-1	11/23/94	12/05/94	569			679	I
Nickel	7440-02-0	QCBLX52261-1	11/23/94			MG/KG		1.4	1
Potassium	7440-09-7	QC8LK52261-1		12/05/94	106	MG/KG		5.4	1
Silver	7440-22-4		11/23/94	12/05/94	4530	MG/KG		679	1
Sodium	7440-23-5	QC8LK52261-1	11/23/94	12/05/94	NO	MG/KG		27.2	1
Vanadium		QCBLK52261-1	11/23/94	12/05/94	2440	MG/KG		136	1
Zinc	7440-62-2	QC8LK52261-1	11/23/94	12/05/94	104	MG/KG		2.7	1
6ω if Per	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	3160	MG/KG		2.7	i



Project: 135.08

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-04-SS1-2-4

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Ргер. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Atuminum	7429-90-5	QC8LK52261-1	14 (27 (2)	4.00		***************************************		MONTH CO. 100	
Intimony	7440-36-0		11/23/94	12/05/94	29700	MG/KG		27.5	1
rsenic	7440-38-2	QC8LK52261-1	11/23/94	12/05/94	ND	MG/KG		13.7	1
larium		QCBLK52261-1	11/23/94	12/07/94	12.7	MG/KG		0.41	1
Beryllium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	3700	MG/KG		27.5	1
Cadmium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.9	MG/KG		0.096	i
alcium	7440-43-9	QC8LK52261-1	11/23/94	12/05/94	14.9	MG/KG		2.7	i
	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	72300	MG/KG		686	į
hromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	452	MG/KG		2.7	
obalt	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	18.9	MG/KG		2.7	<u> </u>
opper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	480				!
ron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94		MG/KG		2.7	1
ead	7439-92-1	QC8LK52261-1	11/23/94	12/07/94	45300	MG/KG		68.6	5
agnesium	7439-95-4	QC8LK52261-1			462	MG/KG		0.41	1
anganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	6310	MG/KG		686	1
ickel	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	568	MG/KG		1.4	1
otassium	7440-02-0		11/23/94	12/05/94	116	MG/KG		5.5	1
ilver		QCBLK52261-1	11/23/94	12/05/94	4230	MG/KG		686	1
odium	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	HO	MG/KG		27.5	1
anadium		QCBLK52261-1	11/23/94	12/05/94	2640	MG/KG		137	i
	7440-62-2	QCBLK52261-1	11/23/94	12/05/94		MG/KG		2.7	į
inc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94		MG/KG		2.7	

Services

Environmental

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB05-SS2-6-8

Project: 135.08

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

Quanterra ID : 6720-008

Specifical resultings	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution	
	Aluminum Antimony	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	28500	MG/KG		28.1	1	**********
200		7440-36-0	QCBLK52261-1	11/23/94	12/05/94	15.6	MG/KG		14.1	i	
ergeery.	Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	ND	MG/KG		0.42	i	
0.00	Sarium Carallia	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3450	MG/KG		28.1	i	
	Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	2.7	MG/KG		0.098	i	
	Cacimium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	10.8	MG/KG		2.8	i	
è	Calcium	7440-70-2	QC8LK52261-1	11/23/94	12/06/94	97000	MG/KG		3520	Ė	
a Pana	Chromium	7440-47-3	QC8LK52261-1	11/23/94	12/05/94	393	MG/KG		2.8	1	
	Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	18.9	MG/KG		2.8	i	
	Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	408	MG/KG		2.8	1	
	Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	45200	MG/KG		70.3	ģ	
	Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	387	MG/KG		0.42	1	
	Magnes i um	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	7310	MG/KG		703	, i	
	Manganese	7439-96-5	QC8LK52261-1	11/23/94	12/05/94	597	MG/KG		1.4	,	
	Nickel	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	110	MG/KG		5.6	1	
	Potassium	7440-09-7	QC8LK52261-1	11/23/94	12/05/94	3900	MG/KG		703	1	
	Silver	7440-22-4	QC8LK52261-1	11/23/94	12/05/94	14.7	MG/KG		28.1	,	
	Sodium	7440-23-5	QC8LK52261-1	11/23/94	12/05/94	2330	MG/KG		141	,	
	Vanadium	7440-62-2	QC8LK52261-1	11/23/94	12/05/94	108	MG/KG		2.8	•	
	Zinc	7440-66-6	QC8LK52261-1	11/23/94	12/05/94	2670	MG/KG		2.8	1	

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-06-\$\$2-6-8

Project: 135.08

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	30400	MG/KG	************	29.1	4
Antimony	7440-36-0	QC8LX52261-1	11/23/94	12/05/94	16.1	MG/KG		14.5	,
Arsenic	7440-38-2	QC8LK52261-1	11/23/94	12/07/94	15.4	MG/KG		0.44	
Barium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	4180	MG/KG		29.1	!
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	3.1	MG/KG			1
Cadmium	7440-43-9	QC8LK52261-1	11/23/94	12/05/94	21.9	MG/KG		0.10	1
Calcium	7440-70-2	QC8LK52261-1	11/23/94	12/05/94	70300			2.9	1
Chromium	7440-47-3	QC8LK52261-1	11/23/94	12/05/94		MG/KG		727	1
Cobalt	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	493	MG/KG		2.9	1
Copper	7440-50-8	QC8LK52261-1	11/23/94		19.0	MG/KG		2.9	1
Iron	7439-89-6	QC8LK52261-1	11/23/94	12/05/94	521	MG/KG		2.9	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/06/94	47100	MG/KG		72.7	5
Magnesium	7439-95-4	QCBLK52261-1		12/07/94	501	MG/KG		0.44	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	6540	MG/KG		727	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	591	MG/KG		1.5	1
Potassium	7440-02-0		11/23/94	12/05/94	121	MG/KG		5.8	1
Silver		QCBLK52261-1	11/23/94	12/05/94	4930	MG/KG		727	1
Sodium	7440-22-4 7440-23-5	QCBLX52261-1	11/23/94	12/05/94	ND	MG/KG		29.1	1
Vanadium		QC8LK52261-1	11/23/94	12/05/94	2670	MG/KG		145	1
Zinc	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	130	MG/KG		2.9	1
	7440-66-6	QC8LK52261-1	11/23/94	12/05/94	3040	MG/KG		2.9	1

Ianterra

Environmental
Services

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-06-\$\$3-13-14

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	15800	MG/KG	ORDER WATERWAY DE LA COMPANIE DE LA	49.2	
Antimony	7440-36-0	QC8LK52261-1	11/23/94	12/05/94	ON	MG/KG		24.6	
Arsenic	7440-38-2	QC8LK52261-1	11/23/94	12/07/94	34.0	MG/KG		0.74	;
Barium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	3050	MG/KG			
Beryllium	7440-41-7	QCBLX52261-1	11/23/94	12/05/94	MD	MG/KG		49.2	!
admium	7440-43-9	QC8LX52261-1	11/23/94	12/05/94	30.4			0,17	1
Calcium	7440-70-2	9C8LK52261-1	11/23/94			MG/KG		4.9	1
Chromium	7440-47-3	9C8LK52261-1	11/23/94	12/06/94	221000	MG/KG		6150	5
obalt	7440-48-4	9C8LK52261-1		12/05/94	510	MG/KG		4.9	1
Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	12.2	MG/KG		4.9	1
ron	7439-89-6		11/23/94	12/05/94	609	MG/KG		4.9	1
ead		QCBLK52261-1	11/23/94	12/05/94	30900	MG/KG		24.6	1
agnesium	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	542	MG/KG		0.74	1
anganese	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	8560	MG/KG		1230	1
ickel	7439-96-5	QC8LK52261-1	11/23/94	12/05/94	553	MG/KG		2.5	1
	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	111	MG/KG		9.8	i
otassium	7440-09-7	QC8LK52261-1	11/23/94	12/05/94	NO	MG/KG		1230	i
ilver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	NO	MG/KG		49.2	i
odium 	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	1430	MG/KG		246	4
anadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	44.5	MG/KG		4.9	i
inc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2520	MG/KG		4.9	i .

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-07-\$\$1-2-4

Project: 135.08

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analy	te	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution	
Alumi Antim Arsen Bariu Beryl Cadmii Calcii Chrom Cobali Copper Iron Lead Magnes Mangar Nickel Potass Silver Sodium Vanadi Zinc	ony ic n Lium Lium Lium Lium Lium Lium Lium Lium	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-48-4 7440-50-8 7439-95-4 7439-96-5 7440-02-0 7440-09-7 7440-22-4 7440-23-5 7440-66-6	QCBLK52261-1	11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94	12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94 12/05/94	28600 25.9 12.7 3420 2.6 13.6 79100 369 17.5 438 41800 424 6440 5559 101 4140 ND 2250 107	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	THE COUNTY AND ADDRESS OF THE COUNTY OF THE	25.6 12.8 0.38 25.6 0.090 2.6 641 2.6 2.6 2.6 64.1 0.38 641 1.3 5.1 641 25.6	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
			4005V75FD []	11/23/94	12/05/94	2470	MG/KG		2.6	1	

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-07-\$\$2-4-6

Project: 135.08

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte Aluminum	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	29100	MG/KG		25.3	1
Antimony	7440-36-0	QC8LK52261-1	11/23/94	12/05/94	16.6	MG/KG		12.6	i
Arsenic	7440-38-2	QC8LK52261-1	11/23/94	12/07/94	12.6	MG/KG		0.38	· •
Barium Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	2940	MG/KG		25.3	,
Beryllium	7440-41-7	QC8LK52261-1	11/23/94	12/05/94	2.7	MG/KG		0.088	<u>,</u>
Cadmium	7440-43-9	QC8LK52261-1	11/23/94	12/05/94	15.4	MG/KG		2.5	1
Calcium	7440-70-2	QC8LK52261-1	11/23/94	12/06/94	98100	MG/KG		3160	Š
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	364	MG/KG		2.5	1
Cobalt	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	17.3	MG/KG		2.5	i
Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	405	MG/KG		2.5	·
Iron Lead	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	42800	MG/KG		63.2	s [']
	7439-92-1	QC8LK52261-1	11/23/94	12/07/94	441	MG/KG		0.38	í
Magnesium Magnesium	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	6690	MG/KG		632	i
Manganese Nickel	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	587	MG/KG		1.3	i
Potassium	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	101	MG/KG		5.1	i
Silver	7440-09-7	QC8LK52261-1	11/23/94	12/05/94	4320	MG/KG		632	i
Sodium	7440-22-4	QC8LK52261-1	11/23/94	12/05/94	ND	MG/KG		25.3	i
Vanadium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2610	MG/KG		126	1
Zinc	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	98.4	MG/KG		2.5	i
6.11 No	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2990	MG/KG		2.5	i



Environmental

Services

Engineering Science, Inc. 400 Woods Mill Road Suite 330 Chesterfield, MO 63017

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-08-\$\$1-0-2

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	25500	MG/KG	***************************************	28.3	4
Antimony	7440-36-0	QC8LK52261-1	11/23/94	12/05/94	ND	MG/KG		14.1	<u>'</u>
Arsenic	7440-38-2	QC8LK52261-1	11/23/94	12/07/94	15.1	MG/KG		0.42	•
Barium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	3490	MG/KG		28.3	1
Beryllium	7440-41-7	QC8LK52261-1	11/23/94	12/05/94	2.4	MG/KG		0.099	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	15.6	MG/KG		2.8	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	75300	MG/KG		706	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	344	MG/KG		2.8	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	16.4	MG/KG		2.8	•
Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	427	MG/KG		2.8	•
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/05/94	33900	MG/KG		14.1	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	417	MG/KG		0.42	4
Magnes i um	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	5890	MG/KG		706	4
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	528	MG/KG		1.4	•
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	97.2	MG/KG		5.7	
Potassium	7440-09-7	QC8LK52261-1	11/23/94	12/05/94	4180	MG/KG		706	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		28.3	
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2060	MG/KG		141	1
Vanadium 7	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	102	MG/KG		2.8	4
Zinc	7440-66-6	QC8LK52261-1	11/23/94	12/05/94	2410	MG/KG		2.8	i

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-08-\$\$4-16-18

Project: 135.08

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	: Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	28700	MG/KG		27.6	4
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	17.0	MG/KG		13.8	
Arsenic	7440-38-2	QC8LK52261-1	11/23/94	12/07/94	15.7	MG/KG		0.41	;
8arium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	3390	MG/KG			!
Beryllium	7440-41-7	QC8LK52261-1	11/23/94	12/05/94	2.6	MG/KG		27.6	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	14.8	MG/KG		0.097 2.8	
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	81100	MG/KG		691	!
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	396	MG/KG			
Cobalt	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	17.9	MG/KG		2.8	i
Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	451	MG/KG		2.8	į.
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	43200	MG/KG		2.8	ا ا
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	433	MG/KG		69.1 0.41	2
Magnesium	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	6600	MG/KG		691	
Manganese	7439-96-5	QC8LK52261-1	11/23/94	12/05/94	588	MG/KG			1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	110	MG/KG		1.4 5.5	i
Potassium	7440-09-7	QC8LK52261-1	11/23/94	12/05/94	4870	MG/KG			1
Silver	7440-22-4	QC8LK52261-1	11/23/94	12/05/94	HO NO	MG/KG		691	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2120			27.6]
Vanadium	7440-62-2	QC8LK52261-1	11/23/94	12/05/94		MG/KG		138	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	105	MG/KG		2.8	1
		and or company of 1	11/22/94	12/03/94	2470	MG/KG		2.8	1



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-09-\$\$1-0-2

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	31700	MG/KG		26.4	4
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	23.3	MG/KG		13.2	1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	15.2	MG/KG		0.40	i
8arium -	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3750	MG/KG			l å
Beryllium	7440-41-7	QCBLX52261-1	11/23/94	12/05/94	2.9	MG/KG		26.4	1
Cacimium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	20.4	MG/KG		0.092 2.6	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94	73600	MG/KG		2.5 659	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	471	MG/KG)
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.6	MG/KG		2.6	•
Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	507	MG/KG		2.6	
Iron .	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	46100	MG/KG		2.6	ļ
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	513	MG/KG		65.9	2
Magnes i um	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	6360	MG/KG		0.40	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	588	MG/KG		659	1
Nickel	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	121			1.3	Į.
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4950	MG/KG		5.3	Ţ
Silver	7440-22-4	QC8LK52261-1	11/23/94	12/05/94		MG/KG		659]
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	ND 2570	MG/KG		26.4]
Vanadium	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	2570	MG/KG		132	1
Zinc	7440-66-6	QCBLK52261-1	11/23/94		126	MG/KG		2.6]
	, 440 00 0	#646V46E61_1	11/63/94	12/05/94	3100	MG/KG		2.6	1



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-09-\$\$2-6-8

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	: Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	27500	MG/KG	-	28.4	4
Antimony	7440-36-0	QC8LK52261-1	11/23/94	12/05/94	21.8	MG/KG		14.2	<u> </u>
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	22.3	MG/KG			i
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	4190			0.43	
Beryllium	7440-41-7	QC8LK52261-1	11/23/94	12/05/94		MG/KG		28.4	Ţ
Cacimium	7440-43-9	QC8LK52261-1	11/23/94		2.6	MG/KG		0.099	1
Calcium	7440-70-2	QCBLK52261-1		12/05/94	22.9	MG/KG		2.8	1
Chromium	7440-47-3		11/23/94	12/05/94	86400	MG/KG		710	1
Cobalt		QCBLK52261-1	11/23/94	12/05/94	468	MG/KG		2.8	1
Copper	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	17.7	MG/KG		2.8	1
Iron	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	552	MG/KG		2.8	1
	7439-89-6	QCBLK52261-1	11/23/94	12/06/94	42700	MG/KG		71.0	5
Lead	7439-92-1	QC8LK52261-1	11/23/94	12/07/94	490	MG/KG		0.43	ĩ
Magnesium	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	6800	MG/KG		710	į
Manganese	7439-96-5	QC8LK52261-1	11/23/94	12/05/94	563	MG/KG		1.4	
Nickel	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	123	MG/KG		5.7	<u> </u>
Potassium	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4370	MG/KG			1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94				710	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	NO TEAC	MG/KG		28.4	1
Vanadium	7440-62-2	QCBLK52261-1			2510	MG/KG		142	1
Zinc	7440-66-6		11/23/94	12/05/94	110	MG/KG		2.8	1
	7440-00-0	QCBLK52261-1	11/23/94	12/05/94	2940	MG/KG		2.8	1

Environmental

Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-10-SS2-6-8

Project: 135.08

Sample Date : 11/01/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	: Unit	Qual.	Detection Limit	Dilution	
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	30900	MG/KG	Wodnsteinnund (besteht)	28.5	4	************
Antimony	7440-36-0	QC8LK52261-1	11/23/94	12/05/94	16.1	MG/KG			;	
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	10.9			14.3]	
Barium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94		MG/KG		0.43	1	
Beryllium	7440-41-7	QC8LK52261-1	11/23/94		3080	MG/KG		28.5	1	
Cadmium	7440-43-9	QC8LK52261-1	11/23/94	12/05/94	2.7	MG/KG		0.10	1	
Calcium	7440-70-2	QCBLK52261-1		12/05/94	16.4	MG/KG		2.9	1	
Chromium	7440-47-3		11/23/94	12/05/94	70000	MG/KG		713	1	
Cobelt		QC8LK52261-1	11/23/94	12/05/94	438	MG/KG		2.9	1	
Copper	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	17.7	MG/KG		2.9	i	
	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	448	MG/KG		2.9		
Iron	7439-89-6	QC8LK52261-1	11/23/94	12/06/94	44000	MG/KG		71.3	<u>'</u>	
Lead	7439-92-1	QC8LK52261-1	11/23/94	12/07/94	444	MG/KG			,	
Magnes i um	7439-95-4	QC8LK52261-1	11/23/94	12/05/94	5710			0.43	į.	
Manganese	7439-96-5	QC8LK52261-1	11/23/94	12/05/94		MG/KG		713	1	
Nickel	7440-02-0	QC8LK52261-1	11/23/94		494	MG/KG		1.4	1	
Potassium	7440-09-7	9C8LK52261-1		12/05/94	109	MG/KG		5.7	1	
Silver	7440-22-4		11/23/94	12/05/94	4890	MG/KG		713	1	
Sodium		QC8LK52261-1	11/23/94	12/05/94	NO	MG/KG		28.5	1	
Vanadium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2640	MG/KG		143	i	
Zinc	7440-62-2	QC8LK52261-1	11/23/94	12/05/94	121	MG/KG		2.9	į	
LIIK	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2820	MG/KG		2.9	i	

Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: S8-11-SS1-0-2

Project: 135.08 Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Atuminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	31300	MG/KG		26.9	4
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	17.7	MG/KG		13.5	, 4
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	15.5	MG/KG		0.40	
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	3680	MG/KG			1
Beryllium	7440-41-7	QC8LK52261-1	11/23/94	12/05/94	3.0	MG/KG		26.9	1
Cadmium	7440-43-9	QC8LK52261-1	11/23/94	12/05/94	14.0			0.094	1
Calcium	7440-70-2	QCBLK52261-1	11/23/94	12/05/94		MG/KG		2.7	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94		79600	MG/KG		673	1
Cobait	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	469	MG/KG		2.7	1
Copper	7440-50-8	QC8LK52261-1		12/05/94	18.8	MG/KG		2.7	1
Iron	7439-89-6	QCBLK52261-1	11/23/94	12/05/94	462	MG/KG		2.7	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/06/94	46300	MG/KG		67.3	5
Magnesium	7439-95-4		11/23/94	12/07/94	399	MG/KG		0.40	1
Manganese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94	6720	MG/KG		673	1
Nickel		QCBLK52261-1	11/23/94	12/05/94	594	MG/KG		1.3	1
Potassium	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	121	MG/KG		5.4	1
Silver	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	4450	MG/KG		673	•
Sodium	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	NO	MG/KG		26.9	i
	7440-23-5	QC8LK52261-1	11/23/94	12/05/94	2620	MG/KG		135	i
Vanadium	7440-62-2	QC8LK52261-1	11/23/94	12/05/94	128	MG/KG		2.7	•
Zinc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	2440	MG/KG		2.7	i



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-11-SS2-4-6

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	28900	MG/KG	-	29.3	4
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	NO				1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	17.0	MG/KG		14.7	1
Barium	7440-39-3	QCBLK52261-1	11/23/94	12/05/94		MG/KG		0.44	1
Beryllium	7440-41-7	QC8LK52261-1	11/23/94		5860	MG/KG		29.3	1
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	2.9	MG/KG		0.10	1
Calcium	7440-70-2	QCBLK52261-1		12/05/94	20.7	MG/KG		2.9	1
Chromium	7440-47-3	QCBLK52261-1	11/23/94	12/05/94	61800	MG/KG		733	1
Cobalt	7440-48-4	QCBLK52261-1	11/23/94	12/05/94	486	MG/KG		2.9	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	20.2	MG/KG		2.9	1
Iron	7439-89-6		11/23/94	12/05/94	487	MG/KG		2.9	1
Lead	7439-92-1	QC8LK52261-1	11/23/94	12/06/94	47100	MG/KG		73.3	5
Magnesium	7439-95-4	QC8LK52261-1	11/23/94	12/07/94	560	MG/KG		0.44	1
Manganese		QC8LK52261-1	11/23/94	12/05/94	5950	MG/KG		733	1
Nickel	7439-96-5	QC8LK52261-1	11/23/94	12/05/94	489	MG/KG		1.5	1
Potassium	7440-02-0	QCBLK52261-1	11/23/94	12/05/94	115	MG/KG		5.9	1
Silver	7440-09-7	QC8LK52261-1	11/23/94	12/05/94	4620	MG/KG		733	1
Sodium	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	NO	MG/KG		29.3	į
Vanadium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	2560	MG/KG		147	i
Zinc	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	127	MG/KG		2.9	i
4. 11 Po	7440-66-6	QC8LK52261-1	11/23/94	12/05/94	3880	MG/KG		2.9	•



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: S8-11-SS3-8-9

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	: Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	27400	MG/KG		31.6	4
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	20.3	MG/KG		15.8	1
Arsenic	7440-38-2	QC8LK52261-1	11/23/94	12/07/94	13.5	MG/KG		0.47	i 4
Barium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	2000	MG/KG		31.6	!
Beryllium	7440-41-7	QC8LK52261-1	11/23/94	12/05/94	2.7	MG/KG		0.11	
Cadmium	7440-43-9	QC8LK52261-1	11/23/94	12/05/94	16.3	MG/KG		3.2	1
Calcium	7440-70-2	QC8LK52261-1	11/23/94	12/05/94	94500	MG/KG		791	
Chromium	7440-47-3	QC8LK52261-1	11/23/94	12/05/94	377	MG/KG			1
Cobalt	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	15.7	MG/KG		3.2	1
Copper	7440-50-8	QC8LK52261-1	11/23/94	12/05/94	463	-		3.2	1
Iron	7439-89-6	QC8LK52261-1	11/23/94	12/05/94	37900	MG/KG		3.2	1
Lead	7439-92-1	QCBLK52261-1	11/23/94	12/07/94	550	MG/KG		15.8	1
Magnesium	7439-95-4	QCBLK52261-1	11/23/94	12/05/94	6750	MG/KG		0.47	1
Manganese	7439-96-5	QC8LK52261-1	11/23/94	12/05/94		MG/KG		791	1
Nickel	7440-02-0	QC8LK52261-1	11/23/94		539	MG/KG		1.6	1
Potassium	7440-09-7	QCBLK52261-1		12/05/94	133	MG/KG		6.3	1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	3750	MG/KG		791	1
Sodium	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		31.6	1
Vanadium	7440-62-2		11/23/94	12/05/94	2470	MG/KG		158	1
Zinc	****	QC8LK52261-1	11/23/94	12/05/94	83.8	MG/KG		3.2	1
	1440-00-0	QC8LK52261-1	11/23/94	12/05/94	1990	MG/KG		3.2	1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-12-SS1-0-2

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

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Analyte Aluminum	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	27100	MG/KG		26.8	4
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	ND ND	MG/KG			
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	16.1			13.4	1
Barium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94		MG/KG		0.40	1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94		4560	MG/KG		26.8	1
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	2.6	MG/KG		0.094	1
Calcium	7440-70-2	QC8LK52264-1		12/06/94	17.7	MG/KG		2.7	1
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	84000	MG/KG		3340	5
Cobalt	7440-48-4		11/23/94	12/06/94	459	MG/KG		2.7	1
Copper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	14.8	MG/KG		2.7	1
Iron		QC8LK52264-1	11/23/94	12/06/94	464	MG/KG		2.7	1
Lead	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	38800	MG/KG		13.4	i
Magnesium	7439-92-1	QC8LK52264-1	11/23/94	12/06/94	470	MG/KG		0.40	i
Manganese	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	5250	MG/KG		669	•
Nickel	7439-96-5	QC8LK52264-1	11/23/94	12/06/94	627	MG/KG		1.3	!
	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	111	MG/KG		5.4	
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3900	MG/KG			
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	NO			669	1
Socium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94		MG/KG		26.8	1
Vanadium	7440-62-2	QC8LK52264-1	11/23/94		2460	MG/KG		134	1
Zinc	7440-66-6	QC8LK52264-1		12/06/94	115	MG/KG		2.7	1
		######################################	11/23/94	12/06/94	4310	MG/KG		2.7	1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: S8-12-SS3-8-9

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution	
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	28100	MG/KG		30.9	4	-
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.1	MG/KG		15.5	<u> </u>	
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	13.3	MG/KG				
Barium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	3440			0.46	1	
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.7	MG/KG		30.9	1	
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	18.4	MG/KG		0_11]	
Calcium	7440-70-2	QC8LX52264-1	11/23/94	12/06/94		MG/KG		3.1	Ţ	
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	71400	MG/KG		774	1	
Cobalt	7440-48-4	QC8LK52264-1	11/23/94		470	MG/KG		3.1	1	
Copper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	15.7	MG/KG		3.1	1	
Iron	7439-89-6	QC8LK52264-1		12/06/94	511	MG/KG		3.1	1	
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	39600	MG/KG		15.5	1	
Magnesium	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	500	MG/KG		0.46	1	
Manganese	7439-96-5		11/23/94	12/06/94	5890	MG/KG		774	1	
Nickel		QCBLK52264-1	11/23/94	12/06/94	505	MG/KG		1.5	1	
Potassium	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	123	MG/KG		6.2	1	
Silver	7440-09-7	QC8LK52264-1	11/23/94	12/06/94	4460	MG/KG		774	1	
Sodium	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	ND	MG/KG		30.9	1	
Vanadium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2460	MG/KG		155	1	
Zinc	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	121	MG/KG		3.1	i	
LIING	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2820	MG/KG		3.1	i	

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-13-\$\$1-0-2

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

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Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	: Unit Que	Detection al. Limit	Dilution
Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-70-2	QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1	11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94	12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94	28600 16.4 13.2 3950 2.6 15.8	MG/KG MG/KG MG/KG MG/KG MG/KG	24.8 12.4 0.37 24.8 0.087 2.5	1 1 1 1 1
Chromium Cobalt Copper Iron Lead Magnesium	7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4	QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1	11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94	12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94	81800 437 15.9 526 39100 474	MG/KG MG/KG MG/KG MG/KG MG/KG	3100 2.5 2.5 2.5 12.4 0.37	5 1 1 1 1
Manganese Nickel Potassium Silver Sodium Vanadium Zinc	7440-22-4 7440-23-5 7440-62-2	QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1	11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94	12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94	5670 583 119 4860 ND 2250 125 2630	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	619 1.2 5.0 619 24.8 124 2.5 2.5	1 1 1 1 1



Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Quanterra ID : 6765-022

Category:	ICAP Metals
Method:	EPA 6010
Matrix:	Solid

Client ID: \$8-13-\$\$3-8-10

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	30800	MG/KG	WINGARAN CONTROL OF THE PROPERTY OF THE PROPER	30.3	
Intimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		15.2	
rsenic	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	14.8	MG/KG			
larium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	4380	MG/KG		0.46	1
eryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	2.9	MG/KG		30.3	1
admium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	21.6	MG/KG		0.11	1
alcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	79200			3.0	i i
hromium	7440-47-3	QC8LK52264-1	11/23/94	12/06/94	473	MG/KG		759	1
obalt	7440-48-4	QC8LK52264-1	11/23/94	12/06/94	15.7	MG/KG MG/KG		3.0	1
opper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	471			3.0	1
ron	7439-89-6	QC8LK52264-1	11/23/94	12/06/94	42900	MG/KG		3.0]
ead	7439-92-1	QC8LK52264-1	11/23/94	12/06/94	542	MG/KG		15.2	1
agnesium-	7439-95-4	9C8LK52264-1	11/23/94	12/06/94	5860	MG/KG		0.46	1
anganese	7439-96-5	QC8LX52264-1	11/23/94	12/06/94	629	MG/KG		759	1
ickel	7440-02-0	9C8LK52264-1	11/23/94	12/06/94		MG/KG		1.5	1
otassium	7440-09-7	QCBLK52264-1	11/23/94		118	MG/KG		6.1	1
ilver	7440-22-4	QC8LK52264-1		12/06/94	5160	MG/KG		759	1
odium.	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	ND	MG/KG		30.3	1
nadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	2770	MG/KG		152	1
inc	7440-66-6		11/23/94	12/06/94	117	MG/KG		3.0	1
	7440-00-0	QCBLK52264-1	11/23/94	12/06/94	4050	MG/KG		3.0	1



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-14-\$\$1-0-2

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	: Unit (Yual.	Detection Limit	Dilution	·
Aluminum	7429-90-5	QC8LK52264-1	44 /97 /0/	19 (6.10)		-				
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	30200	MG/KG		23.8	1	
Arsenic	7440-38-2		11/23/94	12/06/94	ND	MG/KG		11.9	1	
8arium -		QCBLK52264-1	11/23/94	12/06/94	33.4	MG/KG		0.36	1	
Beryllium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	2600	MG/KG		23.8	1	
Cadmium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	2.9	MG/KG		0.083	i	
Calcium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	15.0	MG/KG		2.4	, 1	
· · · · · · · · · · · · · · · · · · ·	7440-70-2	QC8LK52264-1	11/23/94	12/06/94	108000	MG/KG		2970	Ė	
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	570	MG/KG		11.9	2	
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	14.6	MG/KG			2	
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	444			2.4	1	
Iron	7439-89-6	QC8LK52264-1	11/23/94	12/06/94		MG/KG		2.4	1	
Lead	7439-92-1	QC8LK52264-1	11/23/94		37200	MG/KG		11.9	1	
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	523	MG/KG		0.36	1	
Manganese	7439-96-5	QCBLK52264-1		12/06/94	5670	MG/KG		594	1	
Nickel	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	551	MG/KG		1.2	1	
Potassium	7440-09-7		11/23/94	12/06/94	169	MG/KG		4.8	. 1	
Silver	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	4250	MG/KG		594	1	
Sodium		QC8LK52264-1	11/23/94	12/06/94	ND	MG/KG		119	5	
Vanadium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2750	MG/KG		119	1	
Zinc	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	118	MG/KG		11.9	Ė	
So. I I No.	7440-66-6	QC8LK52264-1	11/23/94	12/06/94	2210	MG/KG		2.4	1	



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-14-\$\$2-4-6

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	29500	MG/KG	*************	27.7	9
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.3	MG/KG		13.9	ţ
Arsenic	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	11.9	MG/KG		0.42	1
8arium -	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	3540	MG/KG		27.7	!
Beryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	2.6	MG/KG			1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	10.1	MG/KG		0.097 2.8	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	86700	MG/KG		3470	; E
Chromium	7440-47-3	QC8LK52264-1	11/23/94	12/06/94	407	MG/KG		2.8	, 1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.7	MG/KG		2.8	; 4
Copper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	471	MG/KG		2.8	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	40000	MG/KG		13.9	
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	403	MG/KG		0.42	1
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	5660	MG/KG		694	i
Manganese	7439-96-5	QC8LK52264-1	11/23/94	12/06/94	534	MG/KG		1.4	i
Nickel	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	113	MG/KG		5.5	i
Potassium Silver	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4670	MG/KG		694	1
Sodium	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	NO	MG/KG		27.7	i
	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	2750	MG/KG		139	i
Vanadium Zinc	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	117	MG/KG		2.8	i
LIIK	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2700	MG/KG		2.8	i

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-15-SS1-2-4

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	: Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	28600	MG/KG		25.6	1
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	16.7	MG/KG		12.8	i
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	15.7	MG/KG			i
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	5540			0.38	1
eryllium .	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.7	MG/KG		25.6	Ţ
admium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	20.1	MG/KG		0.090]
alcium	7440-70-2	QCBLX52264-1	11/23/94	12/06/94		MG/KG		2.6	1
hromium	7440-47-3	9C8LK52264-1	11/23/94		82600	MG/KG		3200	5
obalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	470	MG/KG		2.6	1
opper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	16.4	MG/KG		2.6	1
ron	7439-89-6	QC8LK52264-1	11/23/94	12/06/94	532	MG/KG		2.6	1
ead	7439-92-1	QCBLK52264-1		12/06/94	40900	MG/KG		12.8	1
agnesium	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	536	MG/KG		0.38	1
inganese	7439-96-5		11/23/94	12/06/94	5840	MG/KG		639	1
ickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	624	MG/KG		1.3	1
otassium		QCBLK52264-1	11/23/94	12/06/94	118	MG/KG		5.1	1
ilver	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4610	MG/KG		639	1
odium	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	NO	MG/KG		25.6	i
nadium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2540	MG/KG		128	;
	7440-62-2	QCBLX52264-1	11/23/94	12/06/94	132	MG/KG		2.6	
nc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	4330	MG/KG		2.6	•



Project: 135.08

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: S8-15-SS2-6-8

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	t Unit Qual	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	24900	MG/KG	29.9	4
ntimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	15.3	MG/KG		!
rsenic	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	28.5	MG/KG	15.0	
arium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	3970		0.45	1
eryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	2.1	MG/KG	29.9]
admium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	19.7	MG/KG	0.10	1
alcium	7440-70-2	QC8LX52264-1	11/23/94	12/06/94		MG/KG	3.0	1
romium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	127000	MG/KG	3740	5
obalt	7440-48-4	QC8LK52264-1	11/23/94		505	MG/KG	15.0	5
pper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	12.9	MG/KG	3.0	1
on .	7439-89-6	QC8LK52264-1	11/23/94	12/06/94	534	MG/KG	3.0	1
ed	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	36900	MG/KG	15.0	1
gnesium	7439-95-4	QCBLK52264-1		12/06/94	459	MG/KG	0.45	1
inganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	6550	MG/KG	748	1
ckel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	617	MG/KG	1.5	1
tassium	7440-09-7		11/23/94	12/06/94	125	MG/KG	6.0	1
lver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	3340	MG/KG	748	1
dium		QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG	150	5
nadium	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	2300	MG/KG	150	1
nc	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	110	MG/KG	15.0	Ś
I No	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	3370	MG/KG	3.0	1



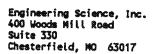
Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-16-SS1-0-2

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CSC No make a re-	Blank Sample	Prep.	Analyses	Detection				
•	CAS Number	Xame	Date	Date	Resul t	Unit	Qual.	Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	26200	MG/KG		37 -	A
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	17.3			24.5	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94		MG/KG		12.3	1
Barium	7440-39-3	QCBLK52264-1	11/23/94		11.1	MG/KG		0.37	1
Beryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	2920	MG/KG		24.5	1
Cadmium	7440-43-9	QC8LK52264-1		12/06/94	2.4	MG/KG		0.086	1
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	7.8	MG/KG		2.5	1
Chromium	7440-47-3		11/23/94	12/06/94	94400	MG/KG		3070	5
Cobalt	7440-48-4	QC8LK52264-1	11/23/94	12/06/94	346	MG/KG		12.3	5
Copper		9C8LK52264-1	11/23/94	12/06/94	16.2	MG/KG		2.5	1
Iron	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	405	MG/KG		2.5	i
Lead	7439-89-6	QC8LK52264-1	11/23/94	12/06/94	38000	MG/KG		12.3	į
	7439-92-1	QC8LK52264-1	11/23/94	12/06/94	413	MG/KG		0.37	;
Magnesium	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	6280	MG/KG		613	i •
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	596	MG/KG		1.2	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	130	MG/KG			<u> </u>
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3590	MG/KG		4.9	1
Silver	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	NO			613	1
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94		MG/KG		123	5
Vanadium	7440-62-2	QC8LK52264-1	11/23/94		1850	MG/KG		123	1
Zinc	7440-66-6	QC8LK52264-1		12/06/94	101	MG/KG		12.3	5
	, 4-00-00-0	4CDLY75504.	11/23/94	12/06/94	2350	MG/KG		2.5	1



Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-16-\$\$3-8-9

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution	
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	31800	MG/KG		30.4	4	-
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	OK	MG/KG			1	
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	11.2			15.2]	
Barium	7440-39-3	QC8LX52264-1	11/23/94			MG/KG		0.46	1	
8eryllium –	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	3090	MG/KG		30.4	1	
Cacimium	7440-43-9	QCBLK52264-1		12/06/94	2.8	MG/KG		0.11	1	
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	9.3	MG/KG		3.0	1	
Chromium	7440-47-3		11/23/94	12/06/94	94800	MG/KG		3800	5	
Cobalt		QCBLK52264-1	11/23/94	12/06/94	413	MG/KG		3.0	1	
Copper	7440-48-4	QC8LK52264-1	11/23/94	12/06/94	18.1	MG/KG		3.0	1	
Iron	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	436	MG/KG		3.0	į	
	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	43100	MG/KG		15.2	;	
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	449	MG/KG		0.46		
Magnesium 	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	7520	MG/KG			1	
Manganese	7439- 96 -5	QC8LK52264-1	11/23/94	12/06/94	645			761	1	
Nickel	7440-02-0	QC8LK52264-1	11/23/94	12/06/94		MG/KG		1.5]	
Potassium	7440-09-7	QC8LK52264-1	11/23/94		125	MG/KG		6.1	1	
Silver	7440-22-4	QC8LK52264-1		12/06/94	4430	MG/KG		761	1	
Socium	7440-23-5		11/23/94	12/06/94	MO	MG/KG		30.4	1	
Vanadium		QCBLK52264-1	11/23/94	12/06/94	2530	MG/KG		152	1	
Zinc	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	115	MG/KG		3.0	1	
	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2410	MG/KG		3.0	1	

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-16-\$\$4-10-12

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	: Unit Qual	Detection Limit	Dilution
Aluminum Antimony	7429-90-5 7440-36-0	QC8LK52266-1	11/23/94	12/06/94	26600	MG/KG	24.5	1
Arsenic	7440-38-2	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	NO 12.0	MG/KG MG/KG	12.3	1
Barium Beryllium	7440-39-3 7440-41-7	QCBLK52266-1	11/23/94	12/06/94	3320	MG/KG	0.37 24.5	1
Cadmium	7440-43-9	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	2.3 8.5	MG/KG MG/KG	0.086	1
Calcium Chromium	7440-70-2 7440-47-3	QCBLK52266-1	11/23/94	12/06/94	91500	MG/KG	2.5 3070	1 5
Cobalt	7440-48-4	QC8LK52266-1 QC8LK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	361 14.0	MG/KG MG/KG	12.3 2.5	5
Copper Iron	7440-50-8 7439-89-6	9CBLK52266-1 9CBLK52266-1	11/23/94	12/06/94	411	MG/KG	2.5	1
Lead	7439-92-1	QC8LK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	36600 418	MG/KG MG/KG	12.3 0.37	1
Magnesium Manganese	7439-95-4 7439-96-5	QC8LK52266-1 QC8LK52266-1	11/23/94 11/23/94	12/06/94	6110	MG/KG	613	1
Nickel Potassium	7440-02-0	QC8LK52266-1	11/23/94	12/06/94 12/06/94	576 106	MG/KG MG/KG	1.2 4.9	1
Silver	7440-09-7 7440-22-4	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94	3980	MG/KG	613	1
Sodium Vanadium	7440-23-5	QCBLX52266-1	11/23/94	12/06/94 12/06/94	NO 2210	MG/KG MG/KG	123 123	5 1
Zinc	7440-62-2 7440-66-6	QC8LK52266-1 QC8LK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	87.0 2560	MG/KG MG/KG	12.3	5

Project: 135.08

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-17-SS1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	: Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52266-1	11/23/94	12/06/94	27800	MG/KG		28.4	4
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG		14.2	;
Arsenic	7440-38-2	QC8LK52266-1	11/23/94	12/06/94	18.2	MG/KG		0.43	
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3370	MG/KG			1
Beryllium	7440-41-7	QC8LK52266-1	11/23/94	12/06/94	2.6	MG/KG		28.4	!
Cadmium	7440-43-9	QC8LK52266-1	11/23/94	12/06/94	20.8	MG/KG		0.099	1
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	103000			2.8	1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	449	MG/KG		3550	5
Cobalt	7440-48-4	QC8LK52266-1	11/23/94	12/06/94	13.5	MG/KG		14.2	5
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	473	MG/KG		2.8	1
Iron	7439-89-6	QC8LK52266-1	11/23/94	12/06/94		MG/KG		2.8	1
Lead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	39300	MG/KG		14.2	1
Magnes i um	7439-95-4	9CBLK52266-1	11/23/94	12/06/94	526	MG/KG		0.43	1
Manganese	7439-96-5	9CBLK52266-1	11/23/94		6540	MG/KG		710	1
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	590	MG/KG		1.4	1
Potassium	7440-09-7	QCBLK52266-1		12/06/94	123	MG/KG		5.7	1
Silver	7440-22-4	QC8LK52266-1	11/23/94	12/06/94	3920	MG/KG		710	1
Sodium	7440-23-5		11/23/94	12/06/94	NO	MG/KG		142	5
Vanadium		QCBLK52266-1	11/23/94	12/06/94	2820	MG/KG		142	1
Zinc	7440-62-2	QC8LK52266-1	11/23/94	12/06/94	101	MG/KG		14.2	5
DA F F PROPE	7440-66-6	QC8LK52266-1	11/23/94	12/06/94	3350	MG/KG		2.8	1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-17-SS3-6-8

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52266-1	11/23/94	12/06/94	28600	MG/KG		31.8	4
Intimony	7440-36-0	QC8LK52266-1	11/23/94	12/06/94	ND	MG/KG		15.9	1
rsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	16.6	MG/KG			
arium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	4680	MG/KG		0.48	1
eryllium	7440-41-7	QC8LK52266-1	11/23/94	12/06/94	3.5			31.8]
odmium	7440-43-9	QC8LK52266-1	11/23/94	12/06/94		MG/KG		0.11	1
ılcium	7440-70-2	QCBLK52266-1	11/23/94		24.6	MG/KG		3.2	1
romium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	67700	MG/KG		794	1
balt	7440-48-4	QC8LK52266-1		12/06/94	515	MG/KG		3.2	1
oper	7440-50-8	QC8LK52266-1	11/23/94	12/06/94	16.5	MG/KG		3.2	1
on	7439-89-6		11/23/94	12/06/94	555	MG/KG		3.2	1
ed .	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	44400	MG/KG		15.9	1
gnesium		QCBLK52266-1	11/23/94	12/06/94	541	MG/KG		0.48	1
nganese	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	6380	MG/KG		794	1
ckel	7439-96-5	QC8LK52266-1	11/23/94	12/06/94	636	MG/KG		1.6	i
tassium	7440-02-0	QC8LK52266-1	11/23/94	12/06/94	137	MG/KG		6.4	ì
iver	7440-09-7	QC8LK52266-1	11/23/94	12/06/94	4570	MG/KG		794	÷
dium dium	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG		31.8	4
	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2600	MG/KG		159	4
nadium	7440-62-2	QC8LK52266-1	11/23/94	12/06/94	98.6	MG/KG			
nc	7440-66-6	QC8LK52266-1	11/23/94	12/06/94	3050			3.2	1
			, 6009 , 74	/ 50/ 74	2020	MG/KG		3.2	7



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-18-\$\$2-4-6

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	28700	MG/KG		30.8	4
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	ND	MG/KG		15.4	;
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	17.2	MG/KG			į.
Barium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	4590			0.46	1
Beryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	2.7	MG/KG		30.8	1
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94		MG/KG		0.11	1
Calcium	7440-70-2	QC8LK52264-1	11/23/94	12/06/94	19.4	MG/KG		3.1	1
Chromium	7440-47-3	QCBLK52264-1	11/23/94		80600	MG/KG		770	1
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	460	MG/KG		3.1	1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	16.2	MG/KG		3.1	1
Iron	7439-89-6	9C8LK52264-1		12/06/94	548	MG/KG		3.1	1
Lead	7439-92-1	9C8LK52264-1	11/23/94	12/06/94	41200	MG/KG		15.4	1
Magnesium	7439-95-4		11/23/94	12/06/94	496	MG/KG		0.46	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	5760	MG/KG		770	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	608	MG/KG		1.5	1
Potassium		QCBLK52264-1	11/23/94	12/06/94	138	MG/KG		6.2	1
Silver	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4320	MG/KG		770	į
Sodium	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	NO	MG/KG		30.8	1
/anadium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2310	MG/KG		154	i
Zinc	7440-62-2	QC8LK52264-1	11/23/94	12/06/94		MG/KG		3.1	i
6 i i Ro	7440-66-6	QCBLK52264-1	11/23/94	12/06/94		MG/KG		3.1	i

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-18-\$\$3-6-8

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution	Mrs. to.
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	27900	MC (VC	***************************************			
Antimony	7440-36-0	QC8LK52264-1	11/23/94			MG/KG		31.2	1	
Arsenic	7440-38-2	9C8LK52264-1	11/23/94	12/06/94	16.3	MG/KG		15.6	1	
Barium	7440-39-3	QCBLK52264-1		12/06/94	16.6	MG/KG		0.47	1	
Beryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	4450	MG/KG		31.2	1	
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	2.6	MG/KG		0.11	1	
Calcium	7440-70-2		11/23/94	12/06/94	17.4	MG/KG		3.1	1	
Chromium	7440-47-3	QC8LK52264-1	11/23/94	12/06/94	101000	MG/KG		3900	5	
Cobalt		QC8LK52264-1	11/23/94	12/06/94	453	MG/KG		3.1	1	
Copper	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.5	MG/KG		3.1	1	
Iron	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	506	MG/KG		3.1	1	
Lead	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	40600	MG/KG		15.6	1	
Magnesium	7439-92-1	QC8LK52264-1	11/23/94	12/06/94	488	MG/KG		0.47	i	
Manganese	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	5640	MG/KG		780	i	
Nickel	7439-96-5	QC8LK52264-1	11/23/94	12/06/94	674	MG/KG		1.6	•	
	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	125	MG/KG		6.2	4	
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	4370	MG/KG		780	; •	
Silver	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	NO	MG/KG		31.2	1	
Sodium	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	2310	MG/KG		156		
Vanadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	121	MG/KG			i .	
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	3460	MG/KG		3.1	1	

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-19-\$\$1-0-2

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Antimony	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	22500	MG/KG		22.0	1
Arsenic	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	15.1	MG/KG		11.0	i
	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	9.5	MG/KG		0.33	i
8arium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	2630	MG/KG		22.0	į
Beryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	2.1	MG/KG		0.077	,
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	5.9	MG/KG		2.2	1
Calcium	7440-70-2	QC8LK52264-1	11/23/94	12/06/94	95300	MG/KG		2760	ļ
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	290	MG/KG		11.0	2
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	13.7	MG/KG		2.2	2
Copper	7440-50-8	QC8LX52264-1	11/23/94	12/06/94	346	MG/KG			1
Iron	7439-89-6	QC8LK52264-1	11/23/94	12/06/94	30500	MG/KG		2.2 11.0	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	309	MG/KG		0.33	;
Magnesium	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	5220	MG/KG		551	1
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	501	MG/KG		1.1	1
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	96.3	MG/KG		4.4	1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	2570	MG/KG		551	!
Silver	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	סא	MG/KG		110	ļ e
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	1790	MG/KG		110	3
Vanadium	7440-62-2	QCBLK52264-1	11/23/94	12/06/94	98.4	MG/KG			l E
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	1960	MG/KG		11.0 2.2) 1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-19-SS3-6-8

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte Aluminum	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Antimony	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	25500	MG/KG		28.2	1
Arsenic	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	16.6	MG/KG		14.1	.
	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	11.8	MG/KG		0.42	
Barium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	3060	MG/KG			i
Beryllium	7440-41-7	9C8LK52264-1	11/23/94	12/06/94	2.3			28.2	1
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94		MG/KG		0.099	!
Calcium	7440-70-2	QCBLK52264-1	11/23/94		7.5	MG/KG		2.8	1
Chromium	7440-47-3	QCBLK52264-1		12/06/94	96700	MG/KG		3520	5
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	317	MG/KG		2.8	1
Copper	7440-50-8		11/23/94	12/06/94	14.7	MG/KG		2.8	1
Iron		QC8LK52264-1	11/23/94	12/06/94	387	MG/KG		2.8	1
Lead	7439-89-6	QC8LK52264-1	11/23/94	12/06/94	34400	MG/KG		14.1	1
Magnesium	7439-92-1	QC8LK52264-1	11/23/94	12/06/94	363	MG/KG		0.42	i
	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	6060	MG/KG		704	•
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	572	MG/KG		1.4	
Nickel	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	103	MG/KG			1
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3320			5.6	!
Silver	7440-22-4	QCBLK52264-1	11/23/94			MG/KG		704	1
Sodium		QC8LK52264-1	11/23/94	12/06/94	ND	MG/KG		28.2	1
Vanadium		QCBLK52264-1		12/06/94	2030	MG/KG		141	1
Zinc	***		11/23/94	12/06/94	100	MG/KG		2.8	1
	7440-00-0	QC8LK52264-1	11/23/94	12/06/94	2230	MG/KG		2.8	1

Environmental

Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-20-\$\$1-0-2

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution	Tradition of the second pro-
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	18200	MG/KG	Alendaria Marazania, gaga	22.9	4	
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	12.4	MG/KG				
Arsenic	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	10.9	MG/KG		11.5	1	
Barium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	2390	-		0.34	Ţ	
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	1.7	MG/KG		22.9]	
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94		MG/KG		0.080	1	
Calcium	7440-70-2	9C8LK52264-1	11/23/94		10.2	MG/KG		2.3	1	
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	111000	MG/KG		2860	5	
Cobalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	283	MG/KG		11.5	5	
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	10.2	MG/KG		2.3	1	
Iron	7439-89-6	QC8LK52264-1	11/23/94	12/06/94	316	MG/KG		2.3	1	
Lead	7439-92-1	QC8LK52264-1		12/06/94	30500	MG/KG		11.5	1	
Magnesium	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	431	MG/KG		0.34	1	
Manganese	7439-96-5	9CBLK52264-1	11/23/94	12/06/94	27500	MG/KG		573	1	
Nickel	7440-02-0	9C8LK52264-1	11/23/94	12/06/94	410	MG/KG		1.1	1	
Potassium	7440-09-7		11/23/94	12/06/94	75.5	MG/KG		4.6	1	
Silver	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	2540	MG/KG		573	1	
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	MD	MG/KG		115	5	
Vanadium		QC8LK52264-1	11/23/94	12/06/94	1540	MG/KG		115	1	
Zinc	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	91.0	MG/KG		11.5	Ś	
	7440-66-6	QC8LK52264-1	11/23/94	12/06/94	2000	MG/KG		2.3	1	

Environmental Services

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-20-\$\$3-8-9

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	t Unit Qual	Detection . Limit	n Dilution
Analyte Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Nickel Potassium Silver	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-96-5 7439-96-5 7440-02-0 7440-09-7	QCBLK52264-1	11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94 11/23/94	12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94 12/06/94	21800 14.6 23.3 3570 1.8 12.7 118000 400 11.8 471 34400 432 6770 527 114 2720	HG/KG		
Sodium Vanadium Zinc	7440-23-5 7440-62-2 7440-66-6	QCBLK52264-1 QCBLK52264-1 QCBLK52264-1 QCBLK52264-1	11/23/94 11/23/94 11/23/94 11/23/94	12/06/94 12/06/94 12/06/94 12/06/94	ND 2100 94.2 2320	MG/KG MG/KG MG/KG MG/KG	130 130 13.0 2.6	5 1 5

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-20-SS3-8-9

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	21800	MG/KG	White the first of the party of	26.1	4
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	14.6	MG/KG		13.0	
Arsenic	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	23.3	MG/KG		0.39	!
Barium .	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3570	MG/KG			i
Beryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	1.8			26.1	1
Cadmium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94		MG/KG		0.091	1
Calcium	7440-70-2	9C8LK52264 - 1	11/23/94	12/06/94	12.7	MG/KG		2.6	1
Chromium	7440-47-3	9C8LK52264 - 1	11/23/94		118000	MG/KG		3260	5
Cobalt	7440-48-4	9C8LK52264-1	11/23/94	12/06/94	400	MG/KG		13.0	5
Copper	7440-50-8	QCBLK52264-1		12/06/94	11.8	MG/KG		2.6	1
Iron	7439-89-6		11/23/94	12/06/94	471	MG/KG		2.6	1
ead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	34400	MG/KG		13.0	1
1agnes i um		QC8LK52264-1	11/23/94	12/06/94	432	MG/KG		0.39	1
ianganese	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	6770	MG/KG		652	1
lickel	7439-96-5	QC8LK52264-1	11/23/94	12/06/94	527	MG/KG		1.3	1
otassium	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	114	MG/KG		5.2	1
Silver	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	2720	MG/KG		652	į
	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	NO	MG/KG		130	ģ
Sodium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	2100	MG/KG		130	1
/anadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	94.2	MG/KG		13.0	ģ
linc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2320	MG/KG		2.6	1



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-22-SS1-2-4

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Atuminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	23500	MG/KG	***************************************	27.7	4
Antimony	7440-36-0	QC8LK52264-1	11/23/94	12/06/94	15.2				1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94		MG/KG		13.8	1
Barium	7440-39-3	QCBLK52264-1	11/23/94		11.8	MG/KG		0.41	1
Beryllium	7440-41-7	QC8LK52264-1		12/06/94	2720	MG/KG		27.7	1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	2.1	MG/KG		0.097	1
Calcium	7440-70-2		11/23/94	12/06/94	14.4	MG/KG		2.8	1
Chromium	7440-47-3	QC8LK52264-1	11/23/94	12/06/94	93800	MG/KG		3460	5
Cobalt	7440-48-4	QC8LK52264-1	11/23/94	12/06/94	363	MG/KG		13.8	5
Copper		QCBLX52264-1	11/23/94	12/06/94	12.9	MG/KG		2.8	1
Iron	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	427	MG/KG		2.8	•
Lead	7439-89-6	QC8LKS2264-1	11/23/94	12/06/94	32800	MG/KG		13.8	į
Magnes i um	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	413	MG/KG		0.41	,
	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	18400	MG/KG		692	
Manganese	7439-96-5	9C8LK52264-1	11/23/94	12/06/94	476	MG/KG		1.4	
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	103	MG/KG		5.5	;
Potassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	3390	MG/KG			!
Silver	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	NO	MG/KG		692	1
Sodium	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	2330			138	,
Vanadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94		MG/KG		138	1
Zinc	7440-66-6	QCBLK52264-1	11/23/94		110	MG/KG		13.8	5
	7 7 7 00 0	400000000000 - 1	11/23/74	12/06/94	2170	MG/KG		2.8	1

Environmental Services

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-22-\$\$2-6-7

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

		Blank Sample	Prep.	Analyses		***************************************		Detection	
Analyte	CAS Number	Xame	Date	Date	Resul t	Unit	Qual.	Limit	Dilution
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	23800	MG/KG	*****************	27.6	4
Intimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	15.7	MG/KG		13.8	
rsenic	7440-38-2	QC8LK52264-1	11/23/94	12/06/94	10.9	MG/KG		0.41	j 4
larium	7440-39-3	QCBLX52264-1	11/23/94	12/06/94	3120	MG/KG			i a
eryllium	7440-41-7	QC8LK52264-1	11/23/94	12/06/94	2.3	MG/KG		27.6	1
admium	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	11.4			0.096	1
alcium	7440-70-2	QC8LK52264-1	11/23/94	12/06/94	95900	MG/KG		2.8	1
hromium	7440-47-3	QC8LK52264-1	11/23/94	12/06/94	371	MG/KG		3450	5
obalt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94		MG/KG		13.8	5
opper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	13.5	MG/KG		2.8	1
ron	7439-89-6	9C8LK52264-1	11/23/94	12/06/94	411	MG/KG		2.8	1
ead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	33600 509	MG/KG		13.8	1
agnesium	7439-95-4	QC8LX52264-1	11/23/94	12/06/94		MG/KG		0.41	1
anganese	7439-96-5	9C8LK52264-1	11/23/94	12/06/94	6220	MG/KG		689	1
ickel	7440-02-0	QCBLK52264-1	11/23/94		496	MG/KG		1.4	1
otassium	7440-09-7	QCBLK52264-1		12/06/94	97.8	MG/KG		5.5	1
ilver	7440-22-4		11/23/94	12/06/94	3590	MG/KG		689	1
odium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	NO	MG/KG		138	5
anadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	2270	MG/KG		138	1
inc		QC8LX52264-1	11/23/94	12/06/94	122	MG/KG		13.8	5
1 F PW	7440-66-6	QC8LK52264-1	11/23/94	12/06/94	2220	MG/KG		2.8	1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-23-\$\$1-2-4

Project: 135.08

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

****	nalyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
	Luminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	26800	MG/KG		24.0	1
	ntimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	17.0	MG/KG		12.0	i
	rsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	13.4	MG/KG		0.36	<u>;</u>
	arium	7440-39-3	QCBLK52264-1	11/23/94	12/06/94	3310	MG/KG		24.0	
	eryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.5	MG/KG		0.084	<u> </u>
	admium .	7440-43-9	QC8LK52264-1	11/23/94	12/06/94	17.0	MG/KG		2.4	;
C	alcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	89700	MG/KG		3000	i e
CI	romium	7440-47-3	QC8LK52264-1	11/23/94	12/06/94	431	MG/KG			2
C	balt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	15.2	MG/KG		12.0	2
Co	pper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	470			2.4	!
I	on	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	36200	MG/KG		2.4]
Le	ead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	30200 466	MG/KG		12.0]
Me	ignesium	7439-95-4	QC8LK52264-1	11/23/94			MG/KG		0.36	1
	inganese	7439-96-5	QCBLK52264-1		12/06/94	5510	MG/KG		601	1
	ckel	7440-02-0		11/23/94	12/06/94	586	MG/KG		1.2	1
	tassium	7440-02-0	QC8LK52264-1	11/23/94	12/06/94	107	MG/KG		4.8	1
	lver		QC8LK52264-1	11/23/94	12/06/94	3640	MG/KG		601	1
	dium	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		120	5
	nadium	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	2560	MG/KG		120	1
Zi		7440-62-2	QC8LK52264-1	11/23/94	12/06/94	118	MG/KG		12.0	5
٤.	f Nú	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2650	MG/KG		2.4	1

Environmental Services

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: S8-23-SS2-6-8

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52264-1	11/23/94	12/06/94	26100	WO (VO	·		
Antimony	7440-36-0	QCBLK52264-1			26100	MG/KG		27.1	1
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	, MD	MG/KG		13.5	1
Barium	7440-39-3		11/23/94	12/06/94	10.3	MG/KG		0.41	1
Beryllium		QCBLK52264-1	11/23/94	12/06/94	3440	MG/KG		27.1	1
Cadmium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	2.3	MG/KG		0.095	1
15.00	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	7.1	MG/KG		2.7	1
Calcium	7440-70-2	QC8LK52264-1	11/23/94	12/06/94	81600	MG/KG		3390	5
Chromium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	347	MG/KG		2.7	1
Cobalt	7440-48-4	QC8LK52264-1	11/23/94	12/06/94	15.0	MG/KG		2.7	1
Copper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	395	MG/KG		2.7	1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	39000	MG/KG		13.5	1
Lead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	359	MG/KG		0.41	i
Magnesium	7439-95-4	QC8LK52264-1	11/23/94	12/06/94	5930	MG/KG		677	i
Manganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	536	MG/KG		1.4	i
Nickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	98.2	MG/KG		5.4	i
Potassium	7440-09-7	QC8LK52264-1	11/23/94	12/06/94	3580	MG/KG		677	i
Silver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND	MG/KG		27.1	4
Sodium	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	2020	MG/KG		135	4
Vanadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	99.1	MG/KG		2.7	i 4
Zinc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94	2130	MG/KG		2.7	! 1

Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: S8-24-SS1-2-4

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

ggigthe constant their	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
	Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	29500	MG/KG		27.7	1
No.	Antimony	7440-36-0	QC8LK52266-1	11/23/94	12/06/94	NO	MG/KG		13.8	<u>,</u>
-	Arsenic	7440-38-2	QC8LK52266-1	11/23/94	12/06/94	11.3	MG/KG		0.42	1
1	Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3330	MG/KG		27.7	<u>.</u>
	Beryll fum	7440-41-7	QC8LK52266-1	11/23/94	12/06/94	2.6	MG/KG		0.097	<u></u>
	Cadmiun	7440-43-9	QC8LK52266-1	11/23/94	12/06/94	8.4	MG/KG		2.8	<u> </u>
Month	Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	83400	MG/KG		3460	i e
Contract	Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	400	MG/KG		2.8	2
ž.	Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	14.7	MG/KG		2.8	1
	Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	440	MG/KG		2.8	1
	Iron	7439-89-6	QC8LK52266-1	11/23/94	12/06/94	40200	MG/KG		13.8	1
40.0	Lead	7439-92-1	QC8LX52266-1	11/23/94	12/06/94	385	MG/KG		0.42	1
ì	Magnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5860	MG/KG			1
Ž.	Manganese	7439-96-5	QC8LK52266-1	11/23/94	12/06/94	558			692	1
	Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	116	MG/KG		1.4	1
,	Potassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94		MG/KG		5.5	1
	Silver	7440-22-4	QCBLK52266-1	11/23/94		4810	MG/KG		692	!
	Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		27.7	1
	Vanadium	7440-62-2	QCBLK52266-1		12/06/94	2330	MG/KG		138	1
	Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	111	MG/KG		2.8	1
		7440-00-0	400CY36COO.	11/23/94	12/06/94	2350	MG/KG		2.8	1



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-24-\$\$2-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

				*******************************	***************	-		
Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul 1	t Unit Qua	Detection l. Limit	Dilution
Aluminum Antimony	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	31200	MG/KG	30.3	1
	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG	15.2	
Arsenic	7440-38-2	QC8LK52266-1	11/23/94	12/06/94	11.5			1
8arium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94		MG/KG	0.46	1
Beryllium	7440-41-7	QC8LK52266-1	11/23/94		3270	MG/KG	30.3	1
Cadmium	7440-43-9	QC8LK52266-1		12/06/94	2.8	MG/KG	0.11	1
Calcium	7440-70-2		11/23/94	12/06/94	10.2	MG/KG	3.0	1
Chromium		QCBLK52266-1	11/23/94	12/06/94	88800	MG/KG	3790	5
Cobalt	7440-47-3	QC8LK52266-1	11/23/94	12/06/94	421	MG/KG	3.0	1
	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	15.4	MG/KG	3.0	1
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	465	MG/KG		1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	42400		3.0	1
Lead	7439-92-1	QCBLX52266-1	11/23/94	12/06/94		MG/KG	15.2	1
Magnes i um	7439-95-4	QC8LK52266-1			439	MG/KG	0.46	1
Manganese	7439-96-5		11/23/94	12/06/94	6530	MG/KG	759	1
Nickel		QC8LK52266-1	11/23/94	12/06/94	609	MG/KG	1.5	1
Potassium	7440-02-0	QC8LK52266-1	11/23/94	12/06/94	124	MG/KG	6.1	į
	7440-09-7	QC8LK52266-1	11/23/94	12/06/94	4650	MG/KG	759	•
Silver	7440-22-4	QC8LK52266-1	11/23/94	12/06/94	ND	MG/KG		i
Sodium	7440-23-5	QC8LK52266-1	11/23/94	12/06/94			30.3	1
Vanadium	7440-62-2	QCBLK52266-1			2560	MG/KG	152	1
Zinc	7440-66-6	9C8LK52266-1	11/23/94	12/06/94	109	MG/KG	3.0	1
	, 440 '00 '0	400FY35500-1	11/23/94	12/06/94	2620	MG/KG	3.0	1



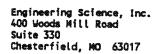
Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-25-\$\$1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

And trapping and the state of	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution
1	Aluminum Antimony	7429-90-5 7440-36-0	QCBLK52266-1	11/23/94	12/06/94	28800	MG/KG	***************************************	26.1	1
Deliver de la constante de la	Arsenic Barium	7440-38-2	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	13.5 11.5	MG/KG MG/KG		13.1 0.39	1
ž.	Beryllium	7440-39-3 7440-41-7	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	3070 2.5	MG/KG MG/KG		26.1 0.091	1 1
- Charles	Cadmium Calcium	7440-43-9 7440-70-2	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	8.9 89200	MG/KG MG/KG		2.6 3260	1 5
	Chromium Cobalt	7440-47-3 7440-48-4	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	414	MG/KG MG/KG		13.1	5 1
è	Copper Iron	7440-50-8 7439-89-6	QC8LK52266-1 QC8LK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	417 38000	MG/KG MG/KG		2.6 13.1	1
	Lead Magnesium	7439-92-1 7439-95-4	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	380 5490	MG/KG MG/KG		0.39 653	1
	Manganese Nickel	7439-96-5 7440-02-0	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	544 106	MG/KG		1.3	1
	Potassium Silver	7440-09-7 7440-22-4	QC8LK52266-1 QC8LK52266-1	11/23/94	12/06/94	4300	MG/KG MG/KG		5.2 653	1 1
	Sodium Vanadium	7440-23-5 7440-62-2	QC8LK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	ND 2560	MG/KG MG/KG		131 131	5 1
	Zinc	7440-66-6	QCBLK52266-1 QCBLK52266-1	11/23/94 11/23/94	12/06/94 12/06/94	110 2660	MG/KG MG/KG		13.1 2.6	5 1



Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-25-\$\$2-6-8

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual	Detection Limit	Dilution
Aluminum						0111.0	4044	£11111 C	Ditation
	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	18300	MG/KG	***************************************	27.5	1
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		13.8	i
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	14.3	MG/KG		0.41	
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	1920	MG/KG		27.5	
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	1.7	MG/KG		0.096	,
Cadmium	7440-43-9	QC8LK52266-1	11/23/94	12/06/94	7.0	MG/KG			1
Calcium	7440-70-2	9C8LX52266-1	11/23/94	12/06/94		-		2.8	1
Chromium	7440-47-3	QCBLK52266-1			57600	MG/KG		688	1
Cobalt	7440-48-4	QC8LK52266-1	11/23/94	12/06/94	236	MG/KG		2.8	1
Copper	7440-50-8		11/23/94	12/06/94	10.7	MG/KG		2.8	1
Iron		QCBLK52266-1	11/23/94	12/06/94	310	MG/KG		2.8	1
Lead	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	31800	MG/KG		13.8	1
	7439-92-1	QC8LK52266-1	11/23/94	12/06/94	414	MG/KG		0.41	1
lagnes i um	7439-95-4	QC8LK52266-1	11/23/94	12/06/94	4210	MG/KG		688	1
fanganese	7439- 96 -5	9C8LK52266-1	11/23/94	12/06/94	424	MG/KG		1.4	i
lickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	80.2	MG/KG		5.5	1
otassium	7440-09-7	QC8LK52266-1	11/23/94	12/06/94	2650	MG/KG		688	,
lilver	7440-22-4	9C8LK52266-1	11/23/94	12/06/94	ND	MG/KG		27.5	1
Sodium	7440-23-5	QC8LK52266-1	11/23/94	12/06/94	1570				1
anadium	7440-62-2	QC8LK52266-1	11/23/94			MG/KG		138	1
linc	7440-66-6			12/06/94	59.0	MG/KG		2.8	1
	1440-00-0	QCBLK52266-1	11/23/94	12/06/94	1550	MG/KG		2.8	1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-26-SS1-2-4

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Danila		01	Detection	
	***************************************		00.0	vace	KESUL !	: Unit	QUAL.	Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	29500	MG/KG		27.7	4
Antimony	7440-36-0	QC8LK52268-1	11/23/94	12/06/94	14.2	MG/KG			!
Arsenic	7440-38-2	QC8LX52268-1	11/23/94	12/07/94	11.1			13.9	!
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	4260	MG/KG		0.42]
Beryllium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94		MG/KG		27.7	- 1
Cadmium	7440-43-9	QC8LK52268-1	11/23/94		2.6	MG/KG		0.097	1
Calcium	7440-70-2	9C8LK52268-1	11/23/94	12/06/94	10.4	MG/KG		2.8	1
Chromium	7440-47-3	9C8LK52268-1	11/23/94	12/06/94	70700	MG/KG		693	1
Cobalt	7440-48-4	QC8LK52268-1		12/06/94	446	MG/KG		2.8	1
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	15.7	MG/KG		2.8	1
Iron	7439-89-6		11/23/94	12/06/94	474	MG/KG		2.8	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/06/94	41900	MG/KG		13.9	1
Magnesium.	7439-95-4	QCBLK52268-1	11/23/94	12/07/94	444	MG/KG		0.42	1
Hanganese		QCBLK52268-1	11/23/94	12/06/94	5430	MG/KG		693	1
Nickel	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	542	MG/KG		1.4	1
Potassium	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	118	MG/KG		5.5	1
Silver	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4310	MG/KG		693	i
Sodium	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		27.7	i
	7440-23-5	QC8LK52268-1	11/23/94	12/06/94	2370	MG/KG		139	i
Vanadium	7440-62-2	QC8LK52268-1	11/23/94	12/06/94	120	MG/KG		2.8	1
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2910	MG/KG		2.8	1



Project: 135.08

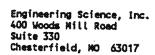
Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-26-SS2-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	30900	MG/KG	***************************************	28.9	4
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		14.5	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	12.0	MG/KG			1
Barium	7440-39-3	QC8LK52268-1	11/23/94	12/06/94	3270	MG/KG		0.43	1
8eryllium -	7440-41-7	QC8LK52268-1	11/23/94	12/06/94				28.9	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	2.7	MG/KG		0.10	1
Calcium	7440-70-2	QCBLKS2268-1	11/23/94	12/06/94	10	MG/KG		2.9	1
Chromium	7440-47-3	QC8LK52268-1	11/23/94		82300	MG/KG		3610	5
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	428	MG/KG		2.9	1
Copper	7440-50-8	QC8LK52268-1	11/23/94	12/06/94	15.9	MG/KG		2.9	1
Iron	7439-89-6	QC8LK52268-1		12/06/94	457	MG/KG		2.9	1
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/06/94	42200	MG/KG		14.5	1
Magnesium	7439-95-4		11/23/94	12/07/94	453	MG/KG		0.43	1
Manganese	7439-96-5	QCBLX52268-1	11/23/94	12/06/94	5830	MG/KG		723	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	549	MG/KG		1.4	1
Potassium	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	116	MG/KG		5.8	1
Silver		QC8LK52268-1	11/23/94	12/06/94	4680	MG/KG		723	1
Sodium	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		28.9	1
Vanadium	7440-23-5	QCBLX52268-1	11/23/94	12/06/94	2450	MG/KG		145	1
Zinc	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	111	MG/KG		2.9	1
6. 11 Pu	7440-66-6	QC8LK52268-1	11/23/94	12/06/94	2820	MG/KG		2.9	i



Environmental Services

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-27-\$\$1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	29500	MG/KG	***************************************	22.4	
Antimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG			1
Arsenic	7440-38-2	QC8LK52266-1	11/23/94	12/06/94	10.3	MG/KG		11.2	!
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3260			0.34	1
Beryllium	7440-41-7	QC8LK52266-1	11/23/94	12/06/94		MG/KG		22.4	1
Cadmium	7440-43-9	QC8LK52266-1	11/23/94	12/06/94	2.4	MG/KG		0.079	1
Calcium	7440-70-2	9C8LK52266-1	11/23/94		7.6	MG/KG		2.2	1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	89600	MG/KG		2800	5
Cobalt	7440-48-4	QCBLK52266-1		12/06/94	428	MG/KG		11.2	5
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	13.4	MG/KG		2.2	1
Iron	7439-89-6		11/23/94	12/06/94	419	MG/KG		2.2	1
Lead		QC8LK52266-1	11/23/94	12/06/94	39700	MG/KG		11.2	1
lagnesium	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	361	MG/KG		0.34	1
langanese	7439-95-4	QC8LX52266-1	11/23/94	12/06/94	5870	MG/KG		561	1
lickel	7439-96-5	QC8LK52266-1	11/23/94	12/06/94	553	MG/KG		1.1	•
	7440-02-0	QC8LKS2266-1	11/23/94	12/06/94	114	MG/KG		4.5	•
otassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	4380	MG/KG		561	i
ilver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	HD	MG/KG		112	Ė
odium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2410	MG/KG		112	3
/anadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	121			_	i
linc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2470	MG/KG MG/KG		11.2 2.2	1

QuanterraEnvironmental
Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-27-\$\$2-6-8

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52266-1	11/23/94	12/06/94	28200	MG/KG	***************************************	27.4	1
Antimony	7440-36-0	QC8LK52266-1	11/23/94	12/06/94	ND	MG/KG		13.7	į
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	10.3	MG/KG		0.41	4
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	3250	MG/KG		27.4	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.4	MG/KG		0.096	i
Cadmium	7440-43-9	QCBLX52266-1	11/23/94	12/06/94	7.1	MG/KG		2.7	i 4
Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	84600	MG/KG		3430	i e
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	347	MG/KG			2
Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	13.6	MG/KG		2.7	!
Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	416	MG/KG		2.7	!
Iron	7439-89-6	9C8LK52266-1	11/23/94	12/06/94	35800			2.7	1
.ead	7439-92-1	QC8LK52266-1	11/23/94	12/06/94	338	MG/KG		13.7	1
(agnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5750	MG/KG		0.41	1
langanese	7439-96-5	9C8LK52266-1	11/23/94	12/06/94		MG/KG		685	1
lickel	7440-02-0	9C8LK52266-1	11/23/94		496	MG/KG		1.4	1
otassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	98.3	MG/KG		5.5	1
ilver	7440-22-4	QC8LK52266-1		12/06/94	4210	MG/KG		685	1
odium	7440-23-5	QC8LK52266-1	11/23/94	12/06/94	NO	MG/KG		27.4	1
anadium	7440-62-2		11/23/94	12/06/94	2550	MG/KG		137	1
inc		QC8LK52266-1	11/23/94	12/06/94	107	MG/KG		2.7	1
,	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2250	MG/KG		2.7	1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-28-\$\$1-2-4

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	: Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	26000	MG/KG	**********	28.0	<u> </u>
Antimony	7440-36-0	QC8LK52266-1	11/23/94	12/06/94	11.1	MG/KG		14.0	•
Arsenic	7440-38-2	QC8LK52266-1	11/23/94	12/06/94	ND	MG/KG		0.42	<u> </u>
Barium	7440-39-3	QC8LK52266-1	11/23/94	12/06/94	6100	MG/KG		28.0	;
Beryllium	7440-41-7	QC8LK52266-1	11/23/94	12/06/94	2.5	MG/KG		0.098	1 4
Cadmium	7440-43-9	QCBLX52266-1	11/23/94	12/06/94	19.6	MG/KG		2.8	1
Calcium	7440-70-2	QC8LK52266-1	11/23/94	12/06/94	63300	MG/KG		700	
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	526	MG/KG		2.8	1
Cobalt	7440-48-4	QC8LK52266-1	11/23/94	12/06/94	14.0	MG/KG		2.8	!
Copper	7440-50-8	QC8LK52266-1	11/23/94	12/06/94	524	MG/KG		2.8	!
Iron	7439-89-6	QCBLX52266-1	11/23/94	12/06/94	41800	MG/KG		14.0	ł
Lead	7439-92-1	QC8LK52266-1	11/23/94	12/06/94	553	MG/KG		0.42	1
Magnesium	7439-95-4	QC8LK52266-1	11/23/94	12/06/94	5050	MG/KG		700	
Manganese	7439-96-5	QC8LK52266-1	11/23/94	12/06/94	545	MG/KG		1.4	!
Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	116	MG/KG		5.6	1
Potassium	7440-09-7	QC8LK52266-1	11/23/94	12/06/94	3820	MG/KG		700	1
Silver	7440-22-4	QC8LK52266-1	11/23/94	12/06/94	19.1	MG/KG			1
Sodium	7440-23-5	QC8LK52266-1	11/23/94	12/06/94	2190	MG/KG		28.0	1
Vanadium	7440-62-2	QC8LK52266-1	11/23/94	12/06/94	142			140	1
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	3980	MG/KG MG/KG		2.8 2.8	1



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-28-\$\$2-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

						OCH STATE OF THE PARTY OF THE P	****	CONTRACTOR OF THE PROPERTY OF	
Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	27600	MG/KG	***************	70 5	***************************************
Antimony	7440-36-0	QC8LK52268-1	11/23/94	12/06/94				30.5	1
Arsenic	7440-38-2	QCBLX52268-1	11/23/94		ND	MG/KG		15.2	1
Barium	7440-39-3	QC8LK52268-1		12/07/94	11.6	MG/KG		0.46	1
Beryllium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94	2380	MG/KG		30.5	1
Cadmium	7440-43-9		11/23/94	12/06/94	2.5	MG/KG		0.11	1
Calcium		QCBLK52268-1	11/23/94	12/06/94	16.1	MG/KG		3.0	1
Chromium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	68000	MG/KG		762	i
Cobalt	7440-47-3	QC8LK52268-1	11/23/94	12/06/94	376	MG/KG		3.0	i
	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	13.6	MG/KG		3.0	•
Copper	7440-50-8	QC8LK52268-1	11/23/94	12/06/94	411	MG/KG		3.0	
Iron	7439-89-6	QC8LK52268-1	11/23/94	12/06/94	37700	MG/KG			1
Lead	7439-92-1	QC8LK52268-1	11/23/94	12/07/94	447			15.2]
Magnes i um	7439-95-4	QCBLK52268-1	11/23/94			MG/KG		0.46	1
Manganese	7439-96-5	QCBLK52268-1		12/06/94	5370	MG/KG		762	1
Nickel	7440-02-0		11/23/94	12/06/94	481	MG/KG		1.5	1
Potassium		QC8LK52268-1	11/23/94	12/06/94	108	MG/KG		6.1	1
Silver	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4850	MG/KG		762	1
Sodium	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		30.5	1
	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2730	MG/KG		152	•
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	89.3	MG/KG			
Zinc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94				3.0	1
			, 22/74	16/00/94	2880	MG/KG		3.0	1

Quanterra
Environmental
Services

Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-29-SS1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul 1	: Unit	Qual.	Detection Limit	Dilution
\ Luminum	7429-90-5	QC8LK52266-1	11/23/94	12/06/94	28100	MG/KG		24.6	1
Intimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG		12.3	•
\rsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	10.1	MG/KG		0.37	1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	2840	MG/KG		24.6	1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	2.4	MG/KG		0.086	1
Cadmium	7440-43-9	QC8LK52266-1	11/23/94	12/06/94	8.2	MG/KG		2.5	
alcium	7440-70-2	QC8LK52266-1	11/23/94	12/06/94	80900	MG/KG		3070	
hromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	331	MG/KG		2.5	,
obalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	14.0	MG/KG		2.5	1
opper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	395	MG/KG		2.5	1
ron	7439-89-6	QCBLX52266-1	11/23/94	12/06/94	35900	MG/KG		12.3	
ead	7439-92-1	QCBLX52266-1	11/23/94	12/06/94	378	MG/KG		0.37	,
agnesium	7439-95-4	QCBLK52266-1	11/23/94	12/06/94	5140	MG/KG		614	1
anganese	7439-96-5	QC8LK52266-1	11/23/94	12/06/94	496	MG/KG		1.2	1
ickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	110	MG/KG		4.9	- 1
otassium	7440-09-7	QCBLK52266-1	11/23/94	12/06/94	3880	MG/KG		614	
ilver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	NO NO	MG/KG		24.6	1
odium	7440-23-5	QC8LK52266-1	11/23/94	12/06/94	2140	MG/KG		123	1
anadium	7440-62-2	QCBLK52266-1	11/23/94	12/06/94	101	MG/KG			1
inc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2190	MG/KG		2.5 2.5	1

Uanterra
Environmental
Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-29-\$\$2-4-6

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52266-1	11/23/94	12/06/94	28700	MG/KG	***************************************	26.8	4
Antimony	7440-36-0	QC8LK52266-1	11/23/94	12/06/94	11.1	MG/KG		13.4	1
Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG			1
Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	2950	MG/KG		0.40	1
Beryllium	7440-41-7	QC8LK52266-1	11/23/94	12/06/94	2.5			26.8]
Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94		MG/KG		0.094	1
Calcium	7440-70-2	QC8LK52266-1	11/23/94	12/06/94	14.8	KG/KG		2.7	1
Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	67200	MG/KG		670	1
Cobalt	7440-48-4	QCBLK52266-1	11/23/94		393	MG/KG		2.7	1
Copper	7440-50-8	QC8LK52266-1	11/23/94	12/06/94	13.5	MG/KG		2.7	1
Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	481	MG/KG		2.7	1
Lead	7439-92-1	QCBLK52266-1		12/06/94	36300	MG/KG		13.4	1
Magnesium	7439-95-4	9C8LK52266-1	11/23/94	12/06/94	480	HGMKG		0.40	1
Manganese	7439-96-5		11/23/94	12/06/94	5170	MG/KG		670	1
Nickel		QC8LK52266-1	11/23/94	12/06/94	480	MG/KG		1.3	1
Potassium	7440-02-0	QCBLX52266-1	11/23/94	12/06/94	122	MG/KG		5.4	1
Silver	7440-09-7	QC8LK52266-1	11/23/94	12/06/94	4540	MG/KG		670	1
Socium	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	16.7	MG/KG		26.8	•
	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	2470	MG/KG		134	i
Vanadium Zina	7440-62-2	QCBLX52266-1	11/23/94	12/06/94	108	MG/KG		2.7	! •
Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	2310	MG/KG		2.7	i

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-30-\$\$1-2-4

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	: Unit	Qual.	Detection Limit	Dilution	-
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	29800	MG/KG		7E A	Market Control of the	
Antimony	7440-36-0	QC8LK52268-1	11/23/94	12/06/94				25.8	I .	
Arsenic	7440-38-2	QC8LK52268-1	11/23/94	12/07/94	, ND	MG/KG		12.9	1	
Barium	7440-39-3	QCBLK52268-1	11/23/94		12.8	MG/KG		0.39	1	
Beryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	3210	MG/KG		25.8	1	
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	2.6	MG/KG		0.090	1	
Calcium	7440-70-2	QCBLK52268-1		12/06/94	13.5	MG/KG		2.6	1	
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	77200	MG/KG		3230	5	
Cobalt	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	381	MG/KG		2.6	1	
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	15.0	MG/KG		2.6	1	
Iron	7439-89-6		11/23/94	12/06/94	462	MG/KG		2.6	1	
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/06/94	39000	MG/KG		12.9	1	
Magnesium	7439-95-4	QC8LK52268-1	11/23/94	12/07/94	487	MG/KG		0.39	1	
Manganese		QCBLK52268-1	11/23/94	12/06/94	5680	MG/KG		645	1	
Nickel	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	550	MG/KG		1.3	1	
Potassium	7440-02-0	QC8LK52268-1	11/23/94	12/06/94	113	MG/KG		5.2	1	
Silver	7440-09-7	QC8LK52268-1	11/23/94	12/06/94	4950	MG/KG		645	i	
Socium	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		25.8	į	
	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2380	MG/KG		129	,	
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	105	MG/KG		2.6	•	
Zinc	7440-66-6	QC8LK52268-1	11/23/94	12/06/94	2610	MG/KG		2.6	;	

Environmental

Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-30-\$\$2-6-8

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	43/0//0/	777.0.0		-	~~~	
Antimony	7440-36-0	QCBLK52268-1		12/06/94	33200	MG/KG		28.4	1
Arsenic [*]	7440-38-2	QC8LK52268-1	11/23/94	12/06/94	NO	MG/KG		14.2	1
Barium	7440-39-3		11/23/94	12/07/94	12.9	MG/KG		0.43	1
Beryllium		QCBLK52268-1	11/23/94	12/06/94	3860	MG/KG		28.4	1
Cadmium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94	2.9	MG/KG		0.10	1
Calcium	7440-43-9	QC8LK52268-1	11/23/94	12/06/94	16.3	MG/KG		2.8	i
	7440-70-2	QC8LK52268-1	11/23/94	12/07/94	82400	MG/KG		3560	Ġ
Chromium	7440-47-3	QC8LK52268-1	11/23/94	12/06/94	490	MG/KG		2.8	1
Cobalt	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	16.2	MG/KG		2.8	1
Copper	7440-50-8	QC8LKS2268-1	11/23/94	12/06/94	521	MG/KG			!
Iron	7439-89-6	QC8LK52268-1	11/23/94	12/06/94	45100			2.8	I
Lead	7439-92-1	QCBLK52268-1	11/23/94	12/07/94		MG/KG		14.2	1
Magnesium	7439-95-4	QC8LK52268-1	11/23/94		487	MG/KG		0.43	1
Manganese	7439-96-5	9C8LK52268-1		12/06/94	6910	MG/KG		711	1
Nickel	7440-02-0	9C8LK52268-1	11/23/94	12/06/94	643	MG/KG		1.4	1
Potassium	7440-02-0		11/23/94	12/06/94	132	MG/KG		5.7	1
Silver		QCBLK52268-1	11/23/94	12/06/94	5330	MG/KG		711	1
Sodium	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		28.4	1
	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2960	MG/KG		142	i
Vanadium	7440-62-2	QC8LK52268-1	11/23/94	12/06/94	122	MG/KG		2.8	1
Zinc	7440-66-6	QC8LK52268-1	11/23/94	12/06/94	3230	MG/KG		2.8	i



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-31-SS1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	29600	MG/KG	***************************************	28.2	4
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		14.1	,
Arsenic	7440-38-2	QC8LK52268-1	11/23/94	12/07/94	12.4	MG/KG		0.42	<u> </u>
Barium	7440-39-3	QC8LK52268-1	11/23/94	12/06/94	3290	MG/KG		28.2	
Beryllium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94	2.6	MG/KG		0.099	1
Cadmium	7440-43-9	QC8LK52268-1	11/23/94	12/06/94	9.8	MG/KG		2.8	
Calcium	7440-70-2	QC8LK52268-1	11/23/94	12/07/94	83900	MG/KG		3520	į
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/06/94	409	MG/KG			2
Cobalt	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	14.3	MG/KG		2.8	1
Copper	7440-50-8	QC8LK52268-1	11/23/94	12/06/94	453	MG/KG		2.8	1
Iron	7439-89-6	QC8LK52268-1	11/23/94	12/06/94	40600			2.8	1
Lead	7439-92-1	QC8LK52268-1	11/23/94	12/07/94	429	MG/KG		14.1	1
lagnes i um	7439-95-4	QC8LK52268-1	11/23/94	12/06/94	5580	MG/KG		0.42	1
fanganese	7439-96-5	QC8LK52268-1	11/23/94	12/06/94		MG/KG		705	1
lickel	7440-02-0	QC8LK52268-1	11/23/94	12/06/94	527	MG/KG		1.4	1
Potassium	7440-09-7	QCBLK52268-1	11/23/94		123	MG/KG		5.6	1
Silver	7440-22-4	QC8LK52268-1		12/06/94	4370	MG/KG		705	1
lodium	7440-23-5	QC8LK52268-1	11/23/94	12/06/94	ND	MG/KG		28.2	1
anadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	2460	MG/KG		141	1
linc	7440-66-6		11/23/94	12/06/94	108	MG/KG		2.8	1
	7440-00-0	QC8LK52268-1	11/23/94	12/06/94	2550	MG/KG		2.8	1



Project: 135.08

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-31-\$\$2-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	31900	MG/KG	***************************************	31.4	4
Intimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		15.7	
\rsenic	7440-38-2	QC8LK52268-1	11/23/94	12/07/94	13.5	MG/KG		0.47	1
Barium	7440-39-3	QC8LK52268-1	11/23/94	12/06/94	4090	MG/KG		31.4	1
Beryllium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94	2.8	MG/KG			
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	18.5	MG/KG		0.11 3.1	1
alcium	7440-70-2	QC8LK52268-1	11/23/94	12/06/94	75000	MG/KG			!
hromium	7440-47-3	QC8LK52268-1	11/23/94	12/06/94	519	MG/KG		784	
obalt	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	14.6	MG/KG		3.1	1
opper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	501			3.1	1
ron	7439-89-6	QC8LK52268-1	11/23/94	12/06/94		MG/KG		3.1	1
ead	7439-92-1	QC8LK52268-1	11/23/94		45300	MG/KG		15.7]
agnesium	7439-95-4	QC8LK52268-1	11/23/94	12/07/94	534	MG/KG		0.47	1
anganese	7439-96-5	9C8LK52268-1	11/23/94	12/06/94	5850	MG/KG		784	1
ickel	7440-02-0	QC8LK52268-1		12/06/94	552	MG/KG		1.6	1
otassium	7440-02-7		11/23/94	12/06/94	128	MG/KG		6.3	1
ilver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	5090	MG/KG		784	1
odium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		31.4	1
anadium		QCBLK52268-1	11/23/94	12/06/94	2530	MG/KG		157	1
inc	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	118	MG/KG		3.1	1
11 Pag	7440-66-6	QC8LK52268-1	11/23/94	12/06/94	4070	MG/KG		3.1	1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Soil

Client ID: S8-32-SS1-2-4

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	31400	MG/KG	***********	37 7	
Antimony	7440-36-0	QC8LK52268-1	11/23/94	12/06/94	DIA			27.7	1
Arsenic	7440-38-2	QC8LK52268-1	11/23/94	12/07/94	11.0	MG/KG		13.8	1
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	3520	MG/KG		0.42	1
Beryllium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94		MG/KG		27.7	1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94		2.6	MG/KG		0.097	1
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	9.5	MG/KG		2.8	1
Chromium	7440-47-3	QC8LK52268-1	11/23/94	12/07/94	86700	MG/KG		3460	5
Cobalt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	451	MG/KG		2.8	1
Copper	7440-50-8	QC8LK52268-1		12/06/94	14.2	MG/KG		2.8	1
Iron	7439-89-6	9C8LK52268-1	11/23/94	12/06/94	444	MG/KG		2.8	1
Lead	7439-92-1	QC8LK52268-1	11/23/94	12/06/94	42000	MG/KG		13.8	1
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/07/94	409	MG/KG		0.42	1
Manganese	7439-96-5		11/23/94	12/06/94	5810	MG/KG		692	1
Nickel	7440-02-0	QCBLK52268-1	11/23/94	12/06/94	574	MG/KG		1.4	1
Potassium		QCBLK52268-1	11/23/94	12/06/94	123	MG/KG		5.5	1
Silver	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4650	MG/KG		692	t
Sodium	7440-22-4	QC8LK52268-1	11/23/94	12/06/94	ND	MG/KG		27.7	i
Vanadium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	2580	MG/KG		138	i
Zinc	7440-62-2	QCBLK52268-1	11/23/94	12/06/94	123	MG/KG		2.8	i
& II Plu	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	2880	MG/KG		2.8	i

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Soil

Client ID: SB-32-SS2-6-8

Project: 135.08

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	: Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52268-1	11/23/94	12/06/94	28900	MG/KG		31.6	4
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	17.0	MG/KG		15.8	<u> </u>
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	14.6	MG/KG		0.47	<u> </u>
Barium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94	4370	MG/KG		31.6	!
Beryllium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94	2.8	MG/KG		0.11	1
Cadmium	7440-43-9	QC8LK52268-1	11/23/94	12/06/94	17.9	MG/KG		3.2	!
Calcium	7440-70-2	QC8LK52268-1	11/23/94	12/06/94	74000	MG/KG			!
Chromium	7440-47-3	QC8LK52268-1	11/23/94	12/06/94	438	MG/KG		791	!
Cobalt	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	15.4	MG/KG		3.2	1
Copper	7440-50-8	QC8LK52268-1	11/23/94	12/06/94	484	MG/KG		3.2	1
Iron	7439-89-6	QC8LK52268-1	11/23/94	12/06/94	40400	MG/KG		3.2 15.8	i
Lead	7439-92-1	QC8LK52268-1	11/23/94	12/07/94	546	MG/KG			i
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5710	MG/KG		0.47	1
Manganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	572	MG/KG		791	1
Nickel	7440-02-0	QC8LK52268-1	11/23/94	12/06/94	110	MG/KG		1.6	!
Potassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	4710			6.3	1
Silver	7440-22-4	QC8LK52268-1	11/23/94	12/06/94		MG/KG		791]
Sodium	7440-23-5	QC8LK52268-1	11/23/94	12/06/94	ND 2710	MG/KG		31.6	1
Vanadium	7440-62-2	QCBLK52268-1	11/23/94		2710	MG/KG		158	1
Zinc	7440-66-6	QCBLK52268-1		12/06/94	117	MG/KG		3.2	1
	7440-00-0	4C9CV3CC00.1	11/23/94	12/06/94	3840	MG/KG		3.2	1

Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-33-\$\$1-0-2

Project: 135.08

Sample Date : 11/04/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	: Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	26000	MG/KG	-	26.2	4
Antimony	7440-36-0	QC8LK52268-1	11/23/94	12/06/94	14.6	MG/KG		13.1	1
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	10.5	MG/KG		0.39	1
8arium 8	7440-39-3	QC8LK52268-1	11/23/94	12/06/94	2860	MG/KG		26.2	!
Beryllium	7440-41-7	QC8LK52268-1	11/23/94	12/06/94	2.3	MG/KG			1
Cadmium	7440-43-9	QCBLK52268-1	11/23/94	12/06/94	6.3	MG/KG		0.092 2.6	i e
Calcium	7440-70-2	QCBLK52268-1	11/23/94	12/07/94	94100	MG/KG		3280	1
Chromium	7440-47-3	QCBLK52268-1	11/23/94	12/07/94	437	MG/KG		13.1	2
Cobalt	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	15.0	MG/KG		2.6	2
Copper	7440-50-8	QCBLK52268-1	11/23/94	12/06/94	355	MG/KG			1
Iron	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	41500	MG/KG		2.6 13.1	1
Lead	7439-92-1	QC8LK52268-1	11/23/94	12/07/94	336	MG/KG		0.39	ì
Magnesium	7439-95-4	QCBLK52268-1	11/23/94	12/06/94	5420	MG/KG		656	1
Manganese	7439-9 6 -5	QCBLK52268-1	11/23/94	12/06/94	529	MG/KG			1
Nickel	7440-02-0	QC8LK52268-1	11/23/94	12/06/94	112	MG/KG		1.3 5.2	1
Potassium	7440-09-7	QC8LK52268-1	11/23/94	12/06/94	3770	MG/KG]
Silver	7440-22-4	QC8LK52268-1	11/23/94	12/07/94	J/ / O			656	1
Sodium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	1970	MG/KG		131	5
Vanadium	7440-62-2	QCBLK52268-1	11/23/94	12/07/94		MG/KG		131	1
Zinc		QCBLK52268-1	11/23/94	12/06/94	99.9	MG/KG		13.1	5
		and the same of the property of	11/22/74	14/00/94	2430	MG/KG		2.6	1

QuanterraEnvironmental
Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: \$8-33-\$\$3-8-10

Project: 135.08

Sample Date : 11/04/94 Receipt Date : 11/04/94 Report Date : 12/21/94

description of the second of t	Blank Sample Iumber Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum 7429-	90-5 QC8LK52268-1	11/23/94	12/06/94	28400	MG/KG		28.6	4
Antimony 7440-	36-0 QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		14.3	1
Arsenic 7440-	38-2 QC8LK52268-1	11/23/94	12/07/94	16.8	MG/KG		0.43	1
Barium 7440-	39-3 QCBLK52268-1	11/23/94	12/06/94	3460	MG/KG			1
Beryllium 7440-		11/23/94	12/06/94	2.3			28.6]
Cacimium 7440-		11/23/94	12/06/94	9.2	MG/KG		0.10	1
Calcium 7440-		11/23/94	12/06/94		MG/KG		2.9	1
Chromium 7440-		11/23/94	12/06/94	98800	MG/KG		3570	5
Cobalt 7440-		11/23/94		431	MG/KG		14.3	5
Copper 7440-		11/23/94	12/06/94	13.4	MG/KG		2.9	1
Iron 7439-		11/23/94	12/06/94	440	MG/KG		2.9	1
Lead 7439-1			12/06/94	40600	MG/KG		14.3	1
Magnesium 7439-		11/23/94	12/07/94	387	MG/KG		0.43	1
Manganese 7439-		11/23/94	12/06/94	7080	MG/KG		714	1
1442	· · · · · · · · · · · · · · · · · · ·	11/23/94	12/06/94	601	MG/KG		1.4	1
, , , ,		11/23/94	12/06/94	123	MG/KG		5.7	1
674		11/23/94	12/06/94	4110	MG/KG		714	1
7440		11/23/94	12/06/94	NO	MG/KG		143	5
1 mm - 1		11/23/94	12/06/94	2470	MG/KG		143	ī
Vanadium 7440-8		11/23/94	12/06/94	112	MG/KG		14.3	Ė
Zinc 7440-8	66-6 QCBLK52268-1	11/23/94	12/06/94	2660	MG/KG		2.9	í

Services

Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: SB-11-SS3-8-9

Project: 135.08

Sample Date : MA Receipt Date : NA Report Date : 12/21/94

Quanterra ID : QCLCS52261-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detectio Limit	n Dilution
Aluminum	7429-90-5	QC8LK52261-1	11/23/94	12/05/94	70	XREC .	~~~~		***************************************
Antimony	7440-36-0	QC8LK52261-1	11/23/94	12/05/94	127				1
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94		XREC			1
8arium -	7440-39-3	QCBLK52261-1	11/23/94	12/05/94	117	XREC			1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94		97	XREC			1
Cadmium	7440-43-9	QC8LK52261-1	11/23/94	12/05/94	106	XREC			1
Calcium	7440-70-2	9C8LK52261-1	11/23/94	12/05/94	111	XREC			1
Chromium	7440-47-3	9CBLK52261-1	11/23/94	12/05/94	114	XREC			1
Cobalt	7440-48-4	QC8LK52261-1	11/23/94	12/05/94	102	XREC			1
Copper	7440-50-8	9C8LK52261-1		12/05/94	109	XREC			1
(ron	7439-89-6	QCBLX52261-1	11/23/94	12/05/94	105	XREC			1
.ead	7439-92-1	QC8LK52261-1	11/23/94	12/05/94	85	XREC			1
fagnesium.	7439-95-4	QCBLK52261-1	11/23/94	12/07/94	108	XREC			1
langanese	7439-96-5	QCBLK52261-1	11/23/94	12/05/94		XREC			1
lickel	7440-02-0		11/23/94	12/05/94		%REC			1
otassium	7440-02-0	QCBLK52261-1	11/23/94	12/05/94		XREC			1
Silver	7440-22-4	QCBLK52261-1	11/23/94	12/05/94		XREC			1
odium		QCBLK52261-1	11/23/94	12/05/94	113	XREC			1
/anadium	7440-23-5	QC8LX52261-1	11/23/94	12/05/94	106	XREC			1
inc	7440-62-2	QCBLK52261-1	11/23/94	12/05/94	100	XREC			i
a f t Pho	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	106	XREC			i

Environmental

Services

Category: ICAP Metals Method: EPA 6010 Matrix: Soil

Client ID: NA

Project: 135.08

Sample Date : NA Receipt Date : NA Report Date : 12/21/94

Quanterra ID : QCLCS52264-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	n Dilution
Aluminum	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	92	XREC	****************		4
Antimony	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	137	XREC			
Arsenic	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	121	XREC			1
Barium	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	103				1
Beryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	106	XREC			1
Cadmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	110	XREC XREC]
Calcium	7440-70-2	QCBLK52264-1	11/23/94	12/06/94	119	XREC			1
Chromium	7440-47-3	QC8LK52264-1	11/23/94	12/06/94	107	XREC			1
Cobalt	7440-48-4	QC8LK52264-1	11/23/94	12/06/94	111	XREC			1
Copper	7440-50-8	QCBLK52264-1	11/23/94	12/06/94	111	XREC			1
Iron	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	122	XREC			1
.ead	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	112	TREC			1
lagnesium	7439-95-4	QCBLKS2264-1	11/23/94	12/06/94	109	XREC			1
fanganese	7439-96-5	QC8LK52264-1	11/23/94	12/06/94	112	TREC			1
lickel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	113	ZREC			
otassium	7440-09-7	QC8LK52264-1	11/23/94	12/06/94	111	ZREC			1
ilver odium	7440-22-4	QC8LK52264-1	11/23/94	12/06/94	111	XREC			!
	7440-23-5	QC8LK52264-1	11/23/94	12/06/94	109	XREC			1
anadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94	98	XREC			1
linc	7440-66-6	QCBLK52264-1	11/23/94	12/06/94		XREC			1

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Soil

Client ID: NA

Project: 135.08

Sample Date : NA Receipt Date : NA Report Date : 12/21/94

Quanterra ID : QCLCS52266-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52266-1	11/23/94	12/06/94	62	XREC	***************************************		4
Intimony	7440-36-0	QCBLK52266-1	11/23/94	12/06/94	134	*REC			
\rsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	115	XREC.			
larium .	7440-39-3	QC8LK52266-1	11/23/94	12/06/94	96	XREC			1
Beryllium	7440-41-7	QCBLK52266-1	11/23/94	12/06/94	103	XREC]
admium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	106	XREC			1
alcium	7440-70-2	QC8LK52266-1	11/23/94	12/06/94	110	TREC			!
hromium	7440-47-3	QC8LK52266-1	11/23/94	12/06/94	96	XREC			1
obalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	106	XREC]
opper	7440-50-8	QCBLX52266-1	11/23/94	12/06/94	104				1
ron	7439-89-6	QC8LK52266-1	11/23/94	12/06/94	74	XREC			1
ead	7439-92-1	QCBLK52266-1	11/23/94	12/06/94	109	XREC			1
agnesium	7439-95-4	QC8LK52266-1	11/23/94	12/06/94	97	XREC]
anganese	7439-96-5	QC8LK52266-1	11/23/94	12/06/94	97 95	XREC			1
ickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	107	XREC			1
otassium	7440-09-7	QCBLK52266-1	11/23/94			ZREC			1
ilver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	96	XREC			1
odium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	106	XREC			1
anadium	7440-62-2	QC8LK52266-1		12/06/94	99	XXEC.			1
inc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	91	XREC			1
-	7440-00-0	APDEY35500.	11/23/94	12/06/94	102	XREC			1

WuanterraEnvironmental
Services

Project: 135.08

Sample Date : NA Receipt Date : NA Report Date : 12/21/94

Quanterra ID : QCLCS52268-1

Category: ICAP Metals Method: EPA 6010 Matrix: Soil

Client ID: NA

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	78	XREC			4
Antimony	7440-36-0	QCBLK52268-1	11/23/94	12/06/94	144	XREC			
Arsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	114	XREC			1
larium	7440-39-3	QCBLK52268-1	11/23/94	12/06/94					1
Beryllium	7440-41-7	QCBLK52268-1	11/23/94		99	XREC			1
admium	7440-43-9	QC8LK52268-1	11/23/94	12/06/94	104	XREC			1
alcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	107	ZREC			1
hromium	7440-47-3	QC8LK52268-1		12/06/94	114	XREC			1
obalt	7440-48-4	QC8LK52268-1	11/23/94	12/06/94	100	XREC			1
opper	7440-50-8		11/23/94	12/06/94	107	XREC			1
ron		QC8LK52268-1	11/23/94	12/06/94	107	XREC			1
ead	7439-89-6	QC8LK52268-1	11/23/94	12/06/94	99	TREC			1
agnesium	7439-92-1	QCBLK52268-1	11/23/94	12/07/94	109	XREC			1
•	7439-95-4	QC8LK52268-1	11/23/94	12/06/94	103	XREC			1
anganese	7439-96-5	QCBLKS2268-1	11/23/94	12/06/94	100	XREC			i
ickel	7440-02-0	QC8LK52268-1	11/23/94	12/06/94	109	XREC			i
otassium	7440-09-7	QCBLK52268-1	11/23/94	12/06/94	106	*REC			i
ilver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	110	XREC.			•
odium	7440-23-5	QC8LK52268-1	11/23/94	12/06/94	105	XREC			1
anadium	7440-62-2	QC8LKS2268-1	11/23/94	12/06/94	96	ZREC			1
inc	7440-66-6	QCBLK52268-1	11/23/94	12/06/94	107	XREC			

Project: 135.08



Category: ICAP Metals Method: EPA 6010 Matrix: Solid

Client ID: NA

Sample Date : MA Receipt Date : MA Report Date : 12/21/94

Quanterra ID : QCBLK52261-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
Aluminum	7429-90-5	QCBLK52261-1	11/23/94	12/05/94	NO	MG/KG		20.0	4
Antimony	7440-36-0	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		10.0	:
Arsenic	7440-38-2	QCBLK52261-1	11/23/94	12/07/94	ND	MG/KG		0.30	:
Barium	7440-39-3	QC8LK52261-1	11/23/94	12/05/94	ND	MG/KG			1
Beryllium	7440-41-7	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		20.0]
Cadmium	7440-43-9	QCBLK52261-1	11/23/94	12/05/94	ND			0.70]
Calcium	7440-70-2	QC8LK52261-1	11/23/94	12/05/94		MG/KG		2.0]
Chromium	7440-47-3	9C8LK52261-1	11/23/94	12/05/94	ND	MG/KG		500	1
Cobait	7440-48-4	QC8LK52261-1	11/23/94		MO	MG/KG		2.0	1
Copper	7440-50-8	QCBLK52261-1	11/23/94	12/05/94	MD	MG/KG		2.0	1
Iron	7439-89-6	QC8LK52261-1		12/05/94	NO	MG/KG		2.0	1
ead	7439-92-1	QC8LK52261-1	11/23/94	12/05/94	MO	MG/KG		10.0	1
lagnes i um	7439-95-4		11/23/94	12/07/94	ND	MG/KG		0.30	1
langanese	7439-96-5	QCBLX52261-1	11/23/94	12/05/94	ND	MG/KG		500	1
lickel		QC8LK52261-1	11/23/94	12/05/94	NO	MG/KG		1.0	1
otassium	7440-02-0	QC8LK52261-1	11/23/94	12/05/94	ND	MG/KG		4.0	1
ilver	7440-09-7	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		500	i
odium	7440-22-4	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		20.0	<u>,</u>
	7440-23-5	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		100	į
anadium	7440-62-2	QC8LK52261-1	11/23/94	12/05/94	ND	MG/KG		2.0	,
!inc	7440-66-6	QCBLK52261-1	11/23/94	12/05/94	ND	MG/KG		2.0	1

Project: 135.08

Environmental Services

Category: ICAP Metals Method: EPA 6010 Matrix: Soil

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 12/21/94

Quanterra ID : QC8LK52264-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Detection Qual. Limit	n Dilution
Aluminum Antimony	7429-90-5	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG	20.0	1
rsenic	7440-36-0	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG		i
arium	7440-38-2	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG		i
	7440-39-3	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG		i
eryllium	7440-41-7	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG	0.70	i
edmium	7440-43-9	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG	2.0	i
alcium	7440-70-2	QC8LK52264-1	11/23/94	12/06/94	ND MG/KG	500	•
romium	7440-47-3	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG	2.0	į
balt	7440-48-4	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG	2.0	i
opper	7440-50-8	QC8LK52264-1	11/23/94	12/06/94	NO MG/KG	2.0	;
ou.	7439-89-6	QCBLK52264-1	11/23/94	12/06/94	NO MG/KG	10.0	;
ead .	7439-92-1	QCBLK52264-1	11/23/94	12/06/94	NO MG/KG	0.30	•
ignes i um.	7439-95-4	QCBLK52264-1	11/23/94	12/06/94	NO MG/KG	500	;
inganese	7439-96-5	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG	1.0	4
ckel	7440-02-0	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG	4.0	1
tassium	7440-09-7	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG	500	i 4
lver	7440-22-4	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG		1
dium	7440-23-5	QCBLK52264-1	11/23/94	12/06/94	ND MG/KG	20.0	1
nadium	7440-62-2	QC8LK52264-1	11/23/94	12/06/94		100	1
nc	7440-66-6	QCBLX52264-1	11/23/94	12/06/94		2.0	1
			11/63/74	16/00/94	ND MG/KG	2.0	1

Environmental
Services

Category: ICAP Metals Method: EPA 6010 Matrix: Soil

Client ID: NA

Project: 135.08

Sample Date : NA Receipt Date : NA Report Date : 12/21/94

Quanterra ID : QCBLK52266-1

MANAGEMENT OF THE PROPERTY OF	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dilution
	Aluminum	7429-90-5	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG	***************************************	20.0	1
	Antimony	7440-36-0	QC8LK52266-1	11/23/94	12/06/94	NO	MG/KG		10.0	.
	Arsenic	7440-38-2	QCBLK52266-1	11/23/94	12/06/94	HD	MG/KG		0.30	1
	Barium	7440-39-3	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		20.0	i 4
	Beryllium	7440-41-7	QC8LK52266-1	11/23/94	12/06/94	ND	MG/KG		0.70	i
	Cadmium	7440-43-9	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
	Calcium	7440-70-2	QCBLK52266-1	11/23/94	12/06/94	ИD	MG/KG		500	1
	Chromium	7440-47-3	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0	; 4
	Cobalt	7440-48-4	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG		2.0	1
	Copper	7440-50-8	QCBLK52266-1	11/23/94	12/06/94	ON	MG/KG		2.0	1
	Iron	7439-89-6	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG		10.0	1
	Lead	7439-92-1	QC8LK52266-1	11/23/94	12/06/94	ON	MG/KG		0.30	1
	Magnesium	7439-95-4	QC8LK52266-1	11/23/94	12/06/94	ND	MG/KG		500	;
	Manganese	7439-96-5	QCBLX52266-1	11/23/94	12/06/94	ND	MG/KG		1.0	1
	Nickel	7440-02-0	QCBLK52266-1	11/23/94	12/06/94	NO	MG/KG		4.0	1
	Potassium	7440-09-7	QC8LK52266-1	11/23/94	12/06/94	NO	MG/KG		500	1
	Silver	7440-22-4	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		20.0	1
	Sodium	7440-23-5	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		100	<u> </u>
	Vanadium	7440-62-2	QC8LK52266-1	11/23/94	12/06/94	ND	MG/KG			
	Zinc	7440-66-6	QCBLK52266-1	11/23/94	12/06/94	ND	MG/KG		2.0 2.0	1
				, 440 / 7 7	, -, , , , , , , , , , , , , , , , ,	NU	ual Va		2.0	\$



Project: 135.08

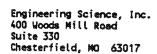
Sample Date : NA Receipt Date : NA Report Date : 12/21/94

Quanterra ID : QCBLK52268-1

Category: ICAP Metals Method: EPA 6010 Matrix: Water

Client ID: NA

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Resul t	Unit	Qual.	Detection Limit	Dilution
Luminum	7429-90-5	QC8LK52268-1	11/23/94	12/06/94	ND	MG/KG		30.0	
ntimony	7440-36-0	QC8LK52268-1	11/23/94	12/06/94				20.0	1
rsenic	7440-38-2	QCBLK52268-1	11/23/94	12/07/94	NO	MG/KG		10.0]
arium	7440-39-3	QC8LK52268-1	11/23/94		ND	MG/KG		0.30	1
eryllium	7440-41-7	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		20.0	1
admium	7440-43-9	QCBLK52268-1		12/06/94	OK	MG/KG		0.70	1
alcium	7440-70-2	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
romium	7440-47-3		11/23/94	12/06/94	ND	MG/KG		500	1
balt	7440-48-4	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
ррег		QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		2.0	1
on	7440-50-8	QC8LK52268-1	11/23/94	12/06/94	ND	MG/KG		2.0	1
ad	7439-89-6	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		10.0	i
	7439-92-1	QC8LK52268-1	11/23/94	12/07/94	ND	MG/KG		0.30	i
ignesium	7439-95-4	QC8LK52268-1	11/23/94	12/06/94	ND	MG/KG		500	•
Inganese	7439-96-5	QCBLK52268-1	11/23/94	12/06/94	ND	MG/KG		1.0	•
ckel	7440-02-0	QC8LK52268-1	11/23/94	12/06/94	ND	MG/KG		4.0	4
tassium	7440-09-7	QC8LK52268-1	11/23/94	12/06/94	MO	MG/KG		500	
lver	7440-22-4	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG			1
dium	7440-23-5	QCBLK52268-1	11/23/94	12/06/94	NO	MG/KG		20.0	Į.
nadium	7440-62-2	QCBLK52268-1	11/23/94	12/06/94		-		100	1
nc	7440-66-6	QCBLK52268-1	11/23/94		NO	MG/KG		2.0	1
	, , , , , , ,		11/22/94	12/06/94	NO	MG/KG		2.0	1



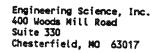
Project: 135.08

Environmental Services

Category: Selenium Method: EPA 7740 Matrix: Solid

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

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Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Analyses Date Date	Result Unit Qual.	Detection Limit	Dil.
SB01 SS1-2-4	6720-001	Selenium	7782-49-2	QCBLK52263-1	11/23/94 11/23/94	ND MG/KG	0.39	1
SB-01-SS3-6-8	6720-002	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.45	1
SB-01-SS4-14-16	6720-003	Selenium	7782-49-2	QCBLK52263-1	11/23/94 11/23/94	ND MG/KG	0.39	1
\$8-02-\$\$1-2-4	6720-004	Selenium	7782-49-2	QC3LK52263-1	11/23/94 11/23/94	ND MG/KG	0.42	1
\$802-\$\$3-8-9.5	6720-005	Selenium	7782-49-2	QCBLK52263-1	11/23/94 11/23/94	ND MG/KG	0.48	1
\$8-03-\$\$1-2-4	6720-006	Selenium	7782-49-2	QCBLK52263-1	11/23/94 11/23/94	0.49 MG/KG	0.41	1
SB-04-SS1-2-4	6720-007	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.41	1
SB05-SS2-6-8	6720-008	Selenium	7782-49-2	QCBLK52263-1	11/23/94 11/23/94	ND MG/KG	0.42	1
SB-06-SS2-6-8	6765-002	Selenium	7782-49-2	QCBLK52263-1	11/23/94 11/23/94	ND MG/KG	0.44	1
SB-06-SS3-13-14	6765-003	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.74	1
SB-07-SS1-2-4	6765-004	Selenium	7782-49-2	QCBLK52263-1	11/23/94 11/23/94	ND MG/KG	0.38	1
SB-07-SS2-4-6	6765-005	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.38	1
SB-09-SS1-0-2	6765-006	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.40	1
SB-09-SS2-6-8	6765-007	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	0.43 MG/KG	0.43	1
SB-08-SS1-0-2	6765-008	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	0.55 MG/KG	0.42	1
88-08-554-16-18	6765-010	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.41	1
SB-10-SS2-6-8	6765-012	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.43	1
8-11-551-0-2	6765-013	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.40	1
B-11-\$\$2-4-6	6765-014	Selenium	7782-49-2	QCBLK52263-1	11/23/94 11/23/94	ND MG/KG	0.44	1
8-11-553-8-9	6765-015	Selenium	7782-49-2	QC8LK52263-1	11/23/94 11/23/94	ND MG/KG	0.47	1
B-12-SS1-0-2	6765-016	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.40	1
B-12-SS3-8-9	6765-018	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.46	1
8-13-551-0-2	6765-020	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.37	1
8-13-553-8-10	6765-022	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	NO MG/KG	0.46	1
B-14-SS1-0-2	6765-023	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.36	1
8-14-552-4-6	6765-024	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.42	1
8-15-SS1-2-4	6765-026	Selenium	7782-49-2	QC8LK52265-1	11/23/94 11/23/94	0.43 MG/KG	0.38	1
3-15-ss2-6-8	6765-027	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	0.52 MG/KG	0.45	1
3-20-\$\$1-0-2	6765-029	Selenium	7782-49-2	QC8LK52265-1	11/23/94 11/23/94	0.38 MG/KG	0.34	1
3-20-ss3-8-9	6765-031	Selenium	7782-49-2	QC8LK52265-1	11/23/94 11/23/94	0.76 MG/KG	0.39	1
3-19-SS1-0-2	6765-032	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	1.2 MG/KG	0.33	1
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QuanterraEnvironmental
Services

Project: 135.08

Category: Selenium Method: EPA 7740 Matrix: Solid

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

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Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Analyses Date Date	Result Unit Qual	Detection . Limit	Dil
SB-19-SS3-6-8	6765-034	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	1.0 MG/KG	0.42	- 1
S8-23-SS1-2-4	6765-035	Selenium	7782-49-2	QC8LK52265-1	11/23/94 11/23/94	0.98 MG/KG	0.36	1
88-23-552-6-8	6765-036	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	1.1 MG/KG	0.41	1
SB-22-SS1-2-4	6765-037	Selenium	7782-49-2	QC8LK52265-1	11/23/94 11/23/94	1.4 MG/KG	0.41	1
SB-22-SS2-6-7	6765-038	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	1.0 MG/KG	0.41	1
SB-18-SS2-4-6	6765-040	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	1.2 MG/KG	0.46	1
8-6-6222-81-88	6765-041	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	1.2 MG/KG	0.47	1
SB-16-SS1-0-2	6765-042	Selenium	7782-49-2	QCBLK52265-1	11/23/94 11/23/94	1.2 MG/KG	0.37	1
88-16-553-8-9	6765-044	Selenium	7782-49-2	QC8LK52265-1	11/23/94 11/23/94	1.2 MG/KG	0.46	1
SB-16-SS4-10-12	6765-045	Selenium	7782-49-2	QCBLK52267-1	11/23/94 11/23/94	1.1 MG/KG	0.37	1
SB-17-SS1-2-4	6765-046	Selenium	7782-49-2	QC8LK52267-1	11/23/94 11/23/94	1.1 MG/KG	0.43	1
B-17-SS3-6-8	6765-048	Selenium	7782-49-2	QC8LK52267-1	11/23/94 11/23/94	1.3 MG/KG	0.48	1
8-25-SS1-2-4	6765-049	Selenium	7782-49-2	QCBLK52267-1	11/23/94 11/23/94	1.1 MG/KG	0.39	1
8-25-\$\$2-6-8	6765-050	Selenium	7782-49-2	QCBLK52267-1	11/23/94 11/23/94	1.0 HG/KG	0.41	1
3-24-SS1-2-4	6765-051	Selenium	7782-49-2	QC8LK52267-1	11/23/94 11/23/94	1.3 MG/KG	0.42	1
3-24-\$\$2-6-8	6765-052	Selenium	7782-49-2	QCBLK52267-1	11/23/94 11/23/94	0.89 MG/KG	0.46	1
3-27-SS1-2-4	6765-053	Selenium	7782-49-2	QCBLK52267-1	11/23/94 11/23/94	1.0 MG/KG	0.34	1
3-27- \$\$2-6-8	6765-054	Selenium	7782-49-2	QCBLK52267-1	11/23/94 11/23/94	0.97 MG/KG	0.41	1
3-29-SS1-2-4	6765-055	Selenium	7782-49-2	QCBLK52267-1	11/23/94 11/23/94	0.82 MG/KG	0.37	1
3-29-552-4-6	6765-056	Selenium	7782-49-2	QC8LK52267-1	11/23/94 11/23/94	ND MG/KG	0.40	1
-28-SS1-2-4	6765-057	Selenium	7782-49-2	QC8LK52267-1	11/23/94 11/23/94	ND MG/KG	0.42	1
3-28-SS2-6-8	6765-058	Selenium	7782-49-2	QC8LK52269-1	11/23/94 11/23/94	1.2 MG/KG	0.46	1
1-26-SS1-2-4	6765-059	Selenium	7782-49-2	QCBLK52269-1	11/23/94 11/23/94	0.93 MG/KG	0.42	1
-26-582-6-8	6765-060	Selenium	7782-49-2	QCBLK52269-1	11/23/94 11/23/94	1.1 MG/KG	0.43	1
-31-\$\$1-2-4	6765-061	Selenium	7782-49-2	QCBLK52269-1	11/23/94 11/23/94	0.93 MG/KG	0.42	1
-31-ss2-6-8	6765-062	Selenium	7782-49-2	QCBLK52269-1	11/23/94 11/23/94	1.0 MG/KG	0.47	1
-32-ss1-2-4	6765-063	Selenium	7782-49-2	QC8LK52269-1	11/23/94 11/23/94	0.81 MG/KG	0.42	1
-32-\$\$2-6-8	6765-064	Selenium	7782-49-2	QCBLK52269-1	11/23/94 11/23/94	0.89 MG/KG	0.47	1
-30-SS1-2-4	6765-065	Selenium	7782-49-2	QC8LK52269-1	11/23/94 11/23/94	0.59 MG/KG	0.39	1
-30-\$\$2-6-8	6765-066	Selenium		QCBLK52269-1	11/23/94 11/23/94	0.89 MG/KG	0.43	
-33-881-0-2	6765-067	Selenium		QCBLK52269-1	11/23/94 11/23/94			1
	•		7.004 77 6	merchalolist / I	11/62/74 11/62/74	1.3 MG/KG	0.39	1

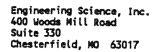
Project: 135.08

Environmental Services

Category: Selenium Method: EPA 7740 Matrix: Solid

Sample Date : 11/04/94 Receipt Date : 11/04/94 Report Date : 12/21/94

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Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Wame	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	n Dil.
SB-33-SS3-8-10	6765-069	Selenium	7782-49-2	QCBLK52269-1	11/23/9	4 11/23/94	1.1	MG/KG	***************************************	0.43	1
NA	QCLCS52263-1	Selenium	7782-49-2	QC8LK52263-1	11/23/9	4 11/23/94	109	XREC			20
NA	QCLC\$52265-1	Selenium	7782-49-2	QC8LK52265-1	11/23/9	4 11/23/94	92	%REC			20
NA	QCLC\$52267-1	Selenium	7782-49-2	QC8LK52267-1	11/23/9	4 11/23/94	102	XREC			20
NA	QCLCS52269-1	Selenium	7782-49-2	QC8LK52269-1	11/23/9	4 11/23/94	93	%REC			20
NA	QCBLK52263-1	Selenium	7782-49-2	QC8LKS2263-1	11/23/94	4 11/23/94	МО	MG/KG		0.30	1
łA .	QC8LK52265-1	Selenium	7782-49-2	QC8LK52265-1	11/23/94	11/23/94	ND	MG/KG		0.30	1
ia .	QC8LK52267-1	Selenium	7782-49-2	QCBLK52267-1	11/23/94	4 11/23/94	ND	MG/KG		0.30	1
IA	QC8LK52269-1	Selenium	7782-49-2	QCBLK52269-1	11/23/94	11/23/94	NO	MG/KG		0.30	1



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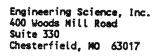
Environmental
Services

Project: 135.08

Category: Thallium Method: EPA 7841 Matrix: Solid

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

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Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. And Date	alyses Date	Result	Unit	Detection Qual. Limit	n Dil.
SB01 SS1-2-4	6720-001	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11	1/23/94	0.53	MG/KG	0.39	1
SB-01-SS3-6-8	6720-002	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11	1/23/94	0.70	MG/KG	0.45	1
SB-01-SS4-14-16	6720-003	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11	1/23/94	0.52	MG/KG	0.39	1
S8-02-SS1-2-4	6720-004	Thallium	7440-28-0	QCBLK52263-1	11/23/94 11	1/23/94	0.54	MG/KG	0.42	1
SB02-SS3-8-9.5	6720-005	Thallium	7440-28-0	QCBLK52263-1	11/23/94 11	1/23/94		MG/KG	0.48	1
\$8-03-\$\$1-2-4	6720-006	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11	1/23/94		MG/KG	0.41	1
SB-04-SS1-2-4	6720-007	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11	1/23/94		MG/KG	0.41	1
SB05-SS2-6-8	6720-008	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11	1/23/94		MG/KG	0.42	1
SB-06-SS2-6-8	6765-002	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11			MG/KG	0.44	1
SB-06-SS3-13-14	6765-003	Thallium	7440-28-0	QCBLK52263-1	11/23/94 11			MG/KG	0.74	1
SB-07-SS1-2-4	6765-004	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11	1/23/94		MG/KG	0.38	1
SB-07-SS2-4-6	6765-005	Thallium	7440-28-0	QCBLK52263-1	11/23/94 11	1/23/94		MG/KG	0.38	1
88-09-SS1-0-2	6765-006	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11			MG/KG	0.40	1
8-09-552-6-8	6765-007	Thallium	7440-28-0	QCBLK52263-1	11/23/94 11			MG/KG	0.43	1
B-08-SS1-0-2	6765-008	Thallium	7440-28-0	QCBLK52263-1	11/23/94 11			MG/KG	0.42	1
8-08-554-16-18	6765-010	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11			MG/KG	0.41	1
B-10-SS2-6-8	6765-012	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11			MG/KG	0.43	1
B-11-SS1-0-2	6765-013	Thallium	7440-28-0	QCBLK52263-1	11/23/94 11			MG/KG	0.40	1
B-11-SS2-4-6	6765-014	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11			MG/KG	0.44	1
B-11-SS3-8-9	6765-015	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11			MG/KG	0.47	1
8-12-SS1-0-2	6765-016	Thallium	7440-28-0	QC8LX52265-1	11/23/94 11,			MG/KG	0.40	1
B-12-SS3-8-9	6765-018	Thallium	7440-28-0	QC8LK52265-1	11/23/94 11			MG/KG		
B-13-SS1-0-2	6765-020	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11/	•		MG/KG	0.46	1
8-13-553-8-10	6765-022	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11,			MG/KG	0.37	1
3-14-SS1-0-2	6765-023	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11/			MG/KG	0.46 0.36	1
I-14-SS2-4-6	6765-024	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11,			MG/KG		1
I-15-SS1-2-4	6765-026	Thallium	7440-28-0	QC8LK52265-1	11/23/94 11/				0.42	1
I-15-SS2-6-8	6765-027	Thallium	7440-28-0	QC8LK52265-1			0.47		0.38	1
3-20-ss1-0-2	6765-029	Thallium	7440-28-0		11/23/94 11/			MG/KG	0.45	1
-20-553-8-9	6765-031	Thallium		QC8LK52265-1	11/23/94 11/			MG/KG	0.34	1
1-19-SS1-0-2	6765-032		7440-28-0	QCBLK52265-1	11/23/94 11/			4G/KG	0.39	1
· 12 331 0 4	0103-032	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11/	/23/94	I DN	4G/KG	0.33	1



DuanterraEnvironmental
Services

Project: 135.08

Category: Thallium Method: EPA 7841 Matrix: Solid

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

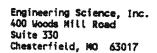
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Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Analyses Date Date	Result Unit Qual.	Detection Limit D	oil.
S8-19-SS3-6-8	6765-034	Thallium	7440-28-0	QC8LK52265-1	11/23/94 11/23/94	ND MG/KG	0.42	1
SB-23-SS1-2-4	6765-035	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.36	1
SB-23-SS2-6-8	6765-036	Thallium	7440-28-0	QC8LK52265-1	11/23/94 11/23/94	ND MG/KG	0.41	1
SB-22-SS1-2-4	6765-037	Thallium	7440-28-0	QC8LK52265-1	11/23/94 11/23/94	ND MG/KG	0.41	1
SB-22-SS2-6-7	6765-038	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.41	1
SB-18-SS2-4-6	6765-040	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11/23/94	0.50 MG/KG	0.46	1
S8-18-SS3-6-8	6765-041	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.47	1
SB-16-SS1-0-2	6765-042	Thallium	7440-28-0	QCBLK52265-1	11/23/94 11/23/94	ND MG/KG	0.37	1
SB-16-SS3-8-9	6765-044	Thallium	7440-28-0	QC8LK52265-1	11/23/94 11/23/94	ND MG/KG	0.46	1
SB-16-SS4-10-12	6765-045	Thallium	7440-28-0	QCBLK52267-1	11/23/94 11/23/94	ND MG/KG	0.37	1
SB-17-SS1-2-4	6765-046	Thallium	7440-28-0	QC8LK52267-1	11/23/94 11/23/94	ND MG/KG	0.43	1
88-17-883-6-8	6765-048	Thallium	7440-28-0	QCBLK52267-1	11/23/94 11/23/94	HD HG/KG	0.48	1
88-25-SS1-2-4	6765-049	Thallium	7440-28-0	QC8LK52267-1	11/23/94 11/23/94	HD MG/KG	0.39	1
SB-25-\$\$2-6-8	6765-050	Thallium	7440-28-0	QC8LK52267-1	11/23/94 11/23/94	ND MG/KG	0.41	1
B-24-SS1-2-4	6765-051	Thallium	7440-28-0	QC8LK52267-1	11/23/94 11/23/94	ND MG/KG	0.42	1
B-24-SS2-6-8	6765-052	Thallium	7440-28-0	QCBLK52267-1	11/23/94 11/23/94	ND MG/KG	0.46	1
B-27-SS1-2-4	6765-053	Thallium	7440-28-0	QC8LX52267-1	11/23/94 11/23/94	ND MG/KG	0.34	1
B-27-SS2-6-8	6765-054	Thallium	7440-28-0	QC8LK52267-1	11/23/94 11/23/94	ND MG/KG	0.41	1
B-29-SS1-2-4	6765-055	Thallium	7440-28-0	QCBLK52267-1	11/23/94 11/23/94	ND MG/KG		1
8-29-SS2-4-6	6765-056	Thallium	7440-28-0	QCBLK52267-1	11/23/94 11/23/94	ND MG/KG	0.40	1
B-28-SS1-2-4	6765-057	Thallium	7440-28-0	QCBLK52267-1	11/23/94 11/23/94	ND MG/KG		1
B-28-S\$2-6-8	6765-058	Thallium	7440-28-0	QCBLK52269-1	11/23/94 11/23/94	ND MG/KG		1
3-26-S\$1-2-4	6765-059	Thallium	7440-28-0	QC8LK52269-1	11/23/94 11/23/94	ND MG/KG		1
3-26-552-6-8	6765-060	Thallium	7440-28-0	QC8LK52269-1	11/23/94 11/23/94	ND MG/KG		1
3-31-881-2-4	6765-061	Thallium	7440-28-0	QCBLK52269-1	11/23/94 11/23/94	ND MG/KG		1
3-31-882-6-8	6765-062	Thallium	7440-28-0	QC8LK52269-1	11/23/94 11/23/94	ND MG/KG		
3-32-SS1-2-4	6765-063	Thallium	7440-28-0	QCBLK52269-1	11/23/94 11/23/94	NO MG/KG		1
3-32-ss2-6-8	6765-064	Thallium	7440-28-0	QC8LK52269-1	11/23/94 11/23/94	0.88 MG/KG		1
I-30-SS1-2-4	6765-065	Thallium	7440-28-0	QC8LK52269-1	11/23/94 11/23/94	0.67 MG/KG		1
-30-ss2-6-8	6765-066	Thallium	7440-28-0	QCBLK52269-1	11/23/94 11/23/94			1
-33-551-0-2	6765-067	Thallium				0.68 MG/KG		1
w to		ingrellan	7440-28-0	QCBLK52269-1	11/23/94 11/23/94	, NO MG/KG	0.39	1

QuanterraEnvironmental
Services

Category: Thallium Method: EPA 7841 Matrix: Solid Project: 135.08

Sample Date : 11/04/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Analyses Date Date	Result Un	it Qual.	Detection Limit	Dil.
sB-33-ss3-8-10	6765-069	Thallium	7440-28-0	QCBLK52269-1	11/23/94 11/23/94	0.48 MG	/KG	0.43	1
NA	QCLCS52263-1	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11/23/94	107 %R	EC		20
NA	QCLCS52265-1	Thallium	7440-28-0	QC8LK52265-1	11/23/94 11/23/94	101 XR	:C		20
NA	QCLCS52267-1	Thallium	7440-28-0	QCBLK52267-1	11/23/94 11/23/94	102 %R	:C		20
NA	QCLCS52269-1	Thallium	7440-28-0	QCBLK52269-1	11/23/94 11/23/94	94 XR	C		20
NA	QCBLK52263-1	Thallium	7440-28-0	QC8LK52263-1	11/23/94 11/23/94	NO MG	′KG	0.30	1
NA	QCBLK52265-1	Thallium	7440-28-0	QC8LK52265-1	11/23/94 11/23/94	ND MG	'KG	0.30	1
NA	QCBLK52267-1	Thallium	7440-28-0	QCBLK52267-1	11/23/94 11/23/94	ND MG	'KG	0.30	1
AA	QC8LK52269-1	Thallium	7440-28-0	QC8LK52269-1	11/23/94 11/23/94	ND MG,	'KG	0.30	1



QuanterraEnvironmental
Services

Project: 135.08

Category: Mercury Method: EPA 7470 Matrix: Solid

Sample Date : 10/31/94 Receipt Date : 10/31/94 Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Detecti Qual. Limit	
SB01 SS1-2-4	6720-001	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.15	MG/KG	0.13	1
8-01-883-6-8	6720-002	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.22	MG/KG	0.15	i 1
SB-01-SS4-14-16	6720-003	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.17	MG/KG	0.13	1
SB-02-SS1-2-4	6720-004	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	0.17	MG/KG	0.14	. 1
\$802-\$\$3-8-9.5	6720-005	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.20	MG/KG	0.16	1
SB-03-SS1-2-4	6720-006	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	0.21	MG/KG	0.14	. 1
SB-04-SS1-2-4	6720-007	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	0.14	MG/KG	0.14	. 1
\$805-\$\$2-6-8	6720-008	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	ND	MG/KG	0.14	
S8-06-SS2-6-8	6765-002	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	0.19	MG/KG	0.15	
SB-06-SS3-13-14	6765-003	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	МО	MG/KG	0.25	
SB-07-SS1-2-4	6765-004	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	0.15	MG/KG	0.13	1
SB-07-SS2-4-6	6765-005	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94		MG/KG	0.13	1
SB-09-SS1-0-2	6765-006	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	0.23	MG/KG	0.13	1
SB-09-SS2-6-8	6765-007	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94		MG/KG	0.14	
SB-08-SS1-0-2	6765-008	Mercury	7439-97-6	QCBLK51759-1		11/17/94		MG/KG	0.14	
58-08-SS4-16-18	6765-010	Mercury	7439-97-6	QC8LK51759-1		11/17/94	0.17	MG/KG	0.14	1
58-10-SS2-6-8	6765-012	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94		MG/KG	0.14	
68-11-SS1-0-2	6765-013	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	0.14		0.13	
B-11-SS2-4-6	6765-014	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	0.16	MG/KG	0.15	1
8-11-553-8-9	6765-015	Mercury	7439-97-6	QC8LK51759-1	11/17/94	11/17/94	0.16	MG/KG	0.16	1
8-12-551-0-2	6765-016	Mercury	7439-97-6	QC8LK52244-1	11/23/94	11/23/94	0.21	,	0.13	1
8-12-553-8-9	6765-018	Mercury	7439-97-6	QCBLK52244-1		11/23/94	0.21	-	0.15	1
B-13-SS1-0-2	6765-020	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.19		0.12	1
8-13-553-8-10	6765-022	Mercury	7439-97-6	QC8LK52244-1	11/23/94		0.24		0.15	1
8-14-SS1-0-2	6765-023	Mercury	7439-97-6	QC8LK52244-1	11/23/94		0.22	-	0.12	1
8-14-552-4-6	6765-024	Hercury	7439-97-6	QC8LK52244-1		11/23/94	0.20 1		0.14	1
8-15-551-2-4	6765-026	Mercury	7439-97-6	QCBLK52244-1		11/23/94	0.28	-	0.13	1
B-15-SS2-6-8	6765-027	Mercury	7439-97-6	QC8LK52244-1	11/23/94		0.22		0.15	1
B-20-SS1-0-2	6765-029	Mercury	7439-97-6	QC8LK52244-1	11/23/94		0.24 1		0.11	1
3-20-ss3-8-9	6765-031	Mercury		QCBLK52244-1	11/23/94		0.25	-	0.13	1
3-19-SS1-0-2	6765-032	Mercury		QCBLK52244-1	11/23/94		0.22		0.13	1

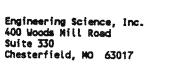
Engineering Science, Inc. 400 Woods Mill Road Suite 330 Chesterfield, MO 63017 **Quanterra**Environmental
Services

Project: 135.08

Category: Mercury Method: EPA 7470 Matrix: Solid

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Detection Limit	n Díl.
sa-19-ss3-6-8	6765-034	Mercury	7439-97-6	QC8LK52244-1	11/23/94	11/23/94	0.23	MG/KG	0.14	1
S8-23-SS1-2-4	6765-035	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	0.20	MG/KG	0.12	1
88-23-552-6-8	6765-036	Mercury	7439-97-6	QC8LK52244-1	11/23/94	11/23/94	ND	MG/KG	0.14	1
SB-22-SS1-2-4	6765-037	Mercury	7439-97-6	QC8LK52244-1	11/23/94	11/23/94	0.19	MG/KG	0.14	1
88-22-882-6-7	6765-038	Hercury	7439-97-6	QC8LK52244-1	11/23/94	11/23/94	0.16	MG/KG	0.14	1
8-18-552-4-6	6765-040	Hercury	7439-97-6	QC8LK52244-1	11/23/94	11/23/94	0.16	MG/KG	0.15	1
8-18-553-6-8	6765-041	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	0.22	HG/KG	0.16	1
B-16-SS1-0-2	6765-042	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	ИD	MG/KG	0.12	1
B-16-SS3-8-9	6765-044	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	0.20	MG/KG	0.15	1
8-16-554-10-12	6765-045	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	ND	MG/KG	0.12	1
B-17-SS1-2-4	6765-046	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	0.23	MG/KG	0.14	1
3-17-SS3-6-8	6765-048	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	0.35	MG/KG	0.16	1
3-25-SS1-2-4	6765-049	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.16	MG/KG	0.13	1
3-25-\$\$2-6-8	6765-050	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.48	MG/KG	0.14	1
3-24-SS1-2-4	6765-051	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	ND	MG/KG	0.14	1
3-24-552-6-8	6765-052	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	NO	MG/KG	0.15	1
1-27-551-2-4	6765-053	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	0.13	MG/KG	0.11	1
3-27-SS2-6-8	6765-054	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.15	MG/KG	0.14	1
1-29-S\$1-Z-4	6765-055	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	ND	MG/KG	0.12	1
-29-SS2-4-6	6765-056	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	0.17	MG/KG	0.13	1
-28-SS1-2-4	6765-057	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	0.29	MG/KG	0.14	1
-28-SS2-6-8	6765-058	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.18	MG/KG	0.15	1
-26-SS1-2-4	6765-059	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	0.17		0.14	1
-26-\$\$2-6-8	6765-060	Mercury	7439-97-6	QCBLK52247-1	11/23/94	11/23/94	ND	MG/KG	0.14	1
-31-551-2-4	6765-061	Mercury	7439-97-6	QC8LK52247-1	11/23/94	11/23/94	0.15	MG/KG	0.14	1
-31-552-6-8	6765-062	Mercury	7439-97-6	QCBLK52247-1		11/23/94	0.65		0.16	1
-32-\$\$1-2-4	6765-063	Hercury	7439-97-6	QC8LK52247-1	11/23/94	11/23/94		MG/KG	0.14	1
-32-\$\$2-6-8	6765-064	Mercury	7439-97-6	QC8LK52247-1		11/23/94	0.23		0.16	1
-30-ss1-2-4	6765-065	Mercury	7439-97-6	QC8LK52247-1		11/23/94	0.20		0.13	1
-30-ss2-6-8	6765-066	Hercury		QC8LK52247-1		11/23/94	0.18		0.14	1
-33-ss1-0-2	6765-067	Mercury		QCBLK52247-1	11/23/94		0.22		0.13	1



Environmental Services

Category: Mercury Method: EPA 7470 Matrix: Solid Project: 135.08

Sample Date : 11/04/94 Receipt Date : 11/04/94 Report Date : 12/21/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	n Dil.
s8-33-ss3-8-10	6765-069	Mercury	7439-97-6	QCBLK52247-1	11/23/9	4 11/23/94	0.16	MG/KG	-	0.14	1
NA	QCLCS51759-1	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	117	%REC			20
NA	QCLCS52244-1	Mercury	7439-97-6	QC8LK52244-1	11/23/94	11/23/94	96	XREC .			20
NA	QCLCS52245-1	Mercury	7439-97-6	QC8LK52245-1	11/23/94	11/23/94	92	XREC			20
MA	QCLCS52247-1	Mercury	7439-97-6	QC8LK52247-1	11/23/94	11/23/94	92	XREC			20
NA	QCBLK51759-1	Mercury	7439-97-6	QCBLK51759-1	11/17/94	11/17/94	NO	MG/KG		0.10	1
HA	QCBLK52244-1	Mercury	7439-97-6	QCBLK52244-1	11/23/94	11/23/94	МО	MG/KG		0.10	1
HA	QC8LK52245-1	Mercury	7439-97-6	QCBLK52245-1	11/23/94	11/23/94	ND	MG/KG		0.10	1
NA	QC8LK52247-1	Mercury	7439-97-6	QCBLX52247-1	11/23/94	11/23/94	NO	MG/KG		0.10	1

Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765 Project Managers W. Price Draft: PM Revieu: Sample Header Template: Sample No. Client ID C-Matrix Date: Collected Received Shipper Rad Category Rad Sample No. Comments Container Type Analysis Class Preservative Anal. Due Date Hold Date Site (Container Numbers: % Filled) Data: 6765-001 01-NOV-94 10:25 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required 1 AN - Amber Glass-250ML COLD 28-NOV-94 03-MAY-95 R11A (114338:100) 6765-002 SB-06-SS2-6-8 01-NOV-94 10:50 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114339:100) HG/7470/Q4 COLD 28-NOV-94 29-NOV-94 R11A (114339:100) ICAPT/6010/Q4 COLD 28-NOV-94 30-APR-95 R11A (114339:100) PM/IT/Q4 30-APR-95 R11A COLD 28-NOV-94 (114339:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114339:100) SE/7740/Q4 COLD 28-NOV-94 30-APR-95 R11A (114339:100) TL/7841/Q4 COLD 30-APR-95 R11A 28-NOV-94 (114339:100) 6765-003 SB-06-SS3-13-14 01-NOV-94 14:15 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114340;100) HG/7470/Q4 COLD 28-NOV-94 29-NOV-94 R11A (114340:100) ICAPT/6010/Q4 COLD 28-NOV-94 30-APR-95 R11A (114340:100) PM/IT/Q4 COLD 28-NOV-94 30-APR-95 R11A (114340:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114340:100) SE/7740/Q4 COLD 28-NOV-94 30-APR-95 R11A (114340:100) TL/7841/Q4 COLD 28-NOV-94 30-APR-95 R11A (114340:100) 6765-004 \$8-07-\$\$1-2-4 Solid 01-NOV-94 12:06 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114341:100) HG/7470/Q4 COLD 28-NOV-94 29-NOV-94 R11A (114341:100) ICAPT/6010/Q4 30-APR-95 R11A S COLD 28-NOV-94 (114341:100) PM/IT/Q4 30-APR-95 R11A COLD 28-NOV-94 (114341:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114341:100) SE/7740/Q4 COLD 28-NOV-94 30-APR-95 R11A (114341:100) TL/7841/Q4 COLD 28-NOV-94 30-APR-95 R11A (114341:100) 6765-005 SB-07-SS2-4-6 01-NOV-94 12:16 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required 1 AN - Amber Glass-250ML ABT/9310/94 COLD (114342:100) 28-NOV-94 03-MAY-95 R11A HG/7470/Q4 COLD 28-NOV-94 29-NOV-94 R11A (114342:100) 3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review: Sample Header Template:

Container Type	Analysis		and the second s			
	Anatysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:% Filled)
	ICAPT/6010/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114342:100)
	PM/1T/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114342:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114342:100)
	SE/7740/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114342:100)
	TL/7841/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114342:100)
-006 SB-09-SS1-0-2	Solid	:01	NUA-07 13-72	4-NOV-94 09:45 0	2-056-0/ ren ev	
			44 th (4.14 A	U CH:KO HK KOM P	t.her.A4 LED.EX	Screening not Required
AN - Amber Glass-250ML	ABT/9310/Q4	_			5 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	HG/7470/Q4	5	COLD	28-NOV-94	03-MAY-95 R11A	(114343:100)
	ICAPT/6010/Q4	S	COLD	28-NOV-94	29-NOV-94 R11A	(114343:100)
	PM/IT/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114343:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114343:100)
	SE/7740/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114343:100)
	TL/7841/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114343:100)
	11.77041744	S	COLD	28-NOV-94	30-APR-95 R11A	(114343:100)
-007 SB-09-SS2-6-8	Solid	01-	NOV-94 14:00 0	4-NOV-94 09:45 0	2-DEC-94 FED-EX	1 Screening not Required
						. variability for section
AN - Amber Glass-250ML	HABT/9310/Q4H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-H-	\$	COLD	28-NOV-94	03-MAY-95 R11A	4444944 4004
e de la company de la comp	HG/7470/Q4	Š	COLD	28-NOV-94		: (114344:100)
	ICAPT/6010/Q4	S	COLD	28-NOV-94	29-NOV-94 R11A	(114344:100)
	PM/1T/94	S	COLD	28-NOV-94	30-APR-95 R11A	(114344:100)
	RAD/KPA/Q4	S	COLD		30-APR-95 R11A	(114344:100)
	SE/7740/94	S		28-NOV-94	03-MAY-95 R11A	(114344:100)
	TL/7841/94	S	COLD	28-NOV-94	30-APR-95 R11A	(114344:100)
	11/1041/44	3	COLD	28-NOV-94	30-APR-95 R11A	(114344:100)
-008 S8-08-SS1-0-2	Solid	01-	NOV-94 14:40 0	4-NOV-94 09:45 02	2-DEC-94 FED-EX	1 Screening not Required
AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114345 : 100 y = 100 i i i i i i i i i i i i i i i i i i
	HG/7470/Q4	S	COLD	28-NOV-94	29-NOV-94 R11A	(114345:100)
	ICAPT/6010/Q4	Š	COLD	28-NOV-94	30-APR-95 R11A	
	PM/1T/Q4	Š	COLD	28-NOV-94		(114345:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114345:100)
	SE/7740/Q4		COLD		03-MAY-95 R11A	(114345:100)
	TL/7841/Q4	S	COLD	28-NOV-94	30-APR-95 R11A	(114345:100)
	12,1041,44	3	COLD	28-NOV-94	30-APR-95 R11A	(114345:100)
-009 SB-08-SS2-6-8	Solid	01-	NOV-94 14:50 04	-NOV-94 09:45 02	-DEC-94 FED-EX	1 Screening not Required
						ani anii illi sure warbiit mg
					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
AN - Amber Glass-250ML	A8T/9310/94	service es es	COLD	28-NOV-94	03-MAY-95 R11A	

^{3*=}Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765 Project Manager: W. Price Entered and Reviewed by: PM Review: Sample Header Template: Sample No. C-Matrix Date: Collected Received Shipper Rad Category Rad Sample No. Comments Container Type Class Preservative Anal. Due Date Hold Date Site (Container Numbers: % Filled) Data: 6765-010 01-NOV-94 15:10 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required 1 AN - Amber Glass-250ML ABT/9310/Q4 28-NOV-94 03-MAY-95 R11A (114347:100) HG/7470/Q4 COLD 28-NOV-94 29-NOV-94 R11A (114347:100) 1 ICAPT/6010/Q4 COLD 28-NOV-94 30-APR-95 R11A (114347:100) 1 PM/IT/Q4 COLD 28-NOV-94 30-APR-95 R11A (114347:100) 1 RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114347:100) 1 SE/7740/Q4 COLD 30-APR-95 R11A 28-NOV-94 (114347:100) 1 TL/7841/Q4 COLD 28-NOV-94 30-APR-95 R11A (114347:100) 01-NOV-94-16:10 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required 1 AN - Amber Glass-250ML ABT/9310/Q4 28-NOV-94 (114348;100) 03-MAY-95 R11A 01-NOV-94 16:20 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114349;100) HG/7470/Q4 COLD 28-NOV-94 29-NOV-94 R11A (114349:100) ICAPT/6010/Q4 COLD 28-NOV-94 30-APR-95 R11A (114349:100) PM/IT/Q4 30-APR-95 R11A COLD 28-NOV-94 (114349:100) RAD/KPA/Q4 COLD 03-MAY-95 R11A 28-NOV-94 (114349:100) SE/7740/Q4 COLD 28-NOV-94 30-APR-95 R11A (114349:100) TL/7841/Q4 28-NOV-94 30-APR-95 R11A (114349:100) 6765-013 \$8-11-\$\$1-0-2 02-NOV-94 08:00 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114350:100) HG/7470/Q4 COLD 30-NOV-94 R11A 28-NOV-94 (114350:100) 1 ICAPT/6010/Q4 COLD 01-MAY-95 R11A 28-NOV-94 (114350:100) 1 PM/IT/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114350:100) 1 RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114350:100) 1 SE/7740/Q4 COLD 28-NOV-94 (114350:100) 01-MAY-95 R11A TL/7841/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114350:100)

SB-11-SS2-4-6

1 AN - Amber Glass-250ML ABT/9310/94

HG/7470/Q4

6765-014

Page 3

COLD

COLD

02-NOV-94 08:05 04-NOV-94 09:45 02-DEC-94 FED-EX

28-NOV-94

28-NOV-94

03-MAY-95 R11A

30-NOV-94 R11A

Screening not Required

State (114351;100)

(114351:100)

^{3*=}Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765

Draft: Final: Entered and Reviewed by: PM Review:

imple No. Client ID	The statement are no propagation .					
Comments	C-Matrix p	ate: Co	llected	Received	Due Shipper	Rad Category Rad Sample No.
# Container Type ta:	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:% Filled)
1	ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	
1	PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114351:100)
1	RAD/KPA/Q4	Š	COLD	28-NOV-94	03-MAY-95 R11A	(114351:100)
1	SE/7740/Q4	Š	COLD	28-NOV-94	01-MAY-95 R11A	(114351:100)
. 1	TL/7841/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114351:100) (114351:100)
65-015 SB-11-S\$3-8-9	Solid	02.	NOV-94 08:10	04-NOV-94 09:45		
						1 Screening not Required
1 AN - Amber Glass-250ML	:::::XBT/9310/Q4::::::::::::::::::::::::::::::::::::	s	COLD	28-NOV-94	03-MAY+95 R11A	444/757
1	HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114 352):100 ():111111111111111111111111111111111111
1	ICAPT/6010/Q4	Š	COLD	28-NOV-94	01-MAY-95 R11A	(114352:100)
1	PM/IT/Q4	Š	COLD	28-NOV-94	01-MAY-95 R11A	(114352:100)
1	RAD/KPA/Q4	s	COLD	28-NOV-94	03-MAY-95 R11A	(114352:100)
1	SE/7740/Q4	Š	COLD	28-NOV-94	01-MAY-95 R11A	(114352:100)
1	TL/7841/94	Š	COLD	28-NOV-94	01-MAY-95 R11A	(114352:100) (114352:100)
45-016 \$8-12-\$\$1-0-2	Solid	02-		04-NOV-94 09:45 (02-DEC-94 FED-EX	1 Screening not Required
1 AM - Amber Glass-250ML	ABT/9310/04	i S	COLD	28-NOV-94	03-MAY-95 R11A	Name Car (114353;100)
4	HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114353:100)
1	ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114353:100)
1	PM/1T/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114353:100)
4	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114353:100)
3	SE/7740/94	S	COLD	28-NOV-94	01-MAY-95 R11A	(114353:100)
•	TL/7841/Q4	Ş	COLD	28-NOV-94	01-MAY-95 R11A	(114353:100)
65-017 \$8-12-\$\$2-2-4	Solid	02-	NOV-94 08:45 0	04-NOV-94 09:45 0	D2-DEC-94 FED-EX	1 Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4 (E. James 1994)	\$	COLD	28-NOV-94	03-MAY-95 R11A	(114354:100)
65-018 SB-12-553-8-9	Solid	02-	NOV-94 08:55 0	94-NOV-94 09:45 0	02-DEC-94 FED-EX	1 Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	
]	HG/7470/Q4	S	COLD	28-NOV-94	30-NOV-94 R11A	(114355:100)
1	ICAPT/6010/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	(114355:100)
]	PM/IT/Q4	S	COLD	28-NOV-94	01-MAY-95 R11A	
1	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114355:100)
1	SE/7740/Q4	Š	COLD	28-NOV-94	01-MAY-95 R11A	(114355:100)
1	TL/7841/Q4	Š	COLD	28-NOV-94	01-MAY-95 R11A	(114355:100) (114355:100)

^{3*=}Sample has not been rad screened.

Project Manager: W. Price

Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

imple No. Comments	Client ID	C-Matrix I	Date: C	ollected	Received	Due Shipper	Rac	d Category Rad Sample No.
# Container	Туре	Analysis	Class	s Preservativ	e Anal. Due Dat	e Hold Date Site		(Container Numbers:% Filled)
765-019	\$8-12-\$\$4-10-12	şolid	02	?-NOV-94 09:00	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1 AM - Amber	Glass-250ML	ABT/9310/Q4	s	COLD	28-NOV-94	03-MAY-95 R11A		(114356: 100)
65-020	sa-13-ss1-0-2	Solid	02	?-NOV-94 09:35	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1 AN - Amber 1 1 1 1 1	Glass-250ML	ABT/9310/Q4 HG/7470/Q4 ICAPT/6010/Q4 PM/IT/Q4 RAD/KPA/Q4 SE/7740/Q4 TL/7841/Q4	s s s s s s	COLD COLD COLD COLD COLD COLD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A		(114357:100) (114357:100) (114357:100) (114357:100) (114357:100) (114357:100) (114357:100)
65-021	SB-13-SS2-6-8	Solid	02	-NOV-94 09:45	04-NOV-94 09:45	02-DEC-94 FED-EX		Screening not Required
1 AN - Amber	Glass-250ML	ABT/9310/04	S	COLD	28-NOV-94	03-MAY-95 R11A	ere si	(114358;100)
65-022	SB-13-SS3-8-10	Solid	02	-NOV-94 09:50	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1 AN - Amber 1 1 1 1 1 1	Gless-250ML	ABT/9310/Q4 HG/7470/Q4 ICAPT/6010/Q4 PM/IT/Q4 RAD/KPA/Q4 SE/7740/Q4 TL/7841/Q4	\$ \$ \$ \$ \$ \$ \$	COFD COFD COFD COFD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A		(114359:100) (114359:100) (114359:100) (114359:100) (114359:100) (114359:100) (114359:100)
65-023	SB-14-SS1-0-2	Solid	02	-NOV-94 10:15	04-NOV-94 09:45	02-DEC-94 FED-EX	1	Screening not Required
1 AN - Amber 1 1 1 1 1 1	Glass-250MC	ABT/9310/Q4 HG/7470/Q4 ICAPT/6010/Q4 PM/IT/Q4 RAD/KPA/Q4 SE/7740/Q4 TL/7841/Q4	\$ \$ \$ \$ \$ \$	COLD COLD COLD COLD COLD COLD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A	de La	(114360:100) (114360:100) (114360:100) (114360:100) (114360:100) (114360:100) (114360:100)

^{3*=}Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm

Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0

Project Manager: W. Price Master Sample Login: 6765

Draft: Final: Entered and Reviewed by: PM Review: Sample Header Template: Sample No. Client ID C-Matrix Date: Collected Received Shipper Rad Category Rad Sample No. Comments Container Type Analysis Class Preservative Anal. Due Date Hold Date Site (Container Numbers: % Filled) Data: 6765-024 58-14-552-4-6 02-NOV-94 10:20 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 28-NOV-94 03-MAY-95 R11A (114361:100) HG/7470/Q4 COLD 28-NOV-94 30-NOV-94 R11A (114361:100) ICAPT/6010/Q4 S COLD 28-NOV-94 01-MAY-95 R11A (114361:100) PM/IT/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114361:100) RAD/KPA/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114361:100) SE/7740/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114361:100) TL/7841/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114361:100) 02-NOV-94 10:30 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required 1 AN - Amber Glass-250ML ABT/9310/04 28-NOV-94 03-MAY-95 R11A (114362:100) 6765-026 02-NOV-94 11:40 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML COLD 28-NOV-94 03-MAY-95 R11A (114363:100) HG/7470/Q4 COLD 28-NOV-94 30-NOV-94 R11A (114363:100) ICAPT/6010/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114363:100) PM/IT/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114363:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114363:100) SE/7740/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114363:100) TL/7841/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114363:100) 6765 - 027 S8-15-SS2-6-8 02-NOV-94 11:50 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/04 COLD 28-NOV-94 03-MAY-95 R11A (114364:100) HG/7470/Q4 S COLD 28-NOV-94 30-NOV-94 R11A (114364:100) 1 ICAPT/6010/Q4 S COLD 28-NOV-94 01-MAY-95 R11A (114364:100) 1 PM/IT/Q4 S COLD 28-NOV-94 01-MAY-95 R11A (114364:100) 1 RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114364:100) SE/7740/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114364:100) TL/7841/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114364:100) SB-15-SS3-8-9 02-NOV-94 11:55 04-NOV-94 09:45 02-DEC-94 FED-EX Solid Screening not Required 1 AN - Amber Glass-250ML ABT/9310/Q4 28-NOV-94 03-MAY-95 R11A (114365:100)

^{3*=}Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm

Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0

PM Review:

Master Sample Login: 6765

Project Manager; W. Price

Draft: Final: Entered and Reviewed by:

Sample Header Template: Sample No. Client ID C-Matrix Date: Collected Received Comments # Container Type Due Rad Category Rad Sample No. Shipper Analysis Class Preservative Anal. Due Date Hold Date Site (Container Numbers: % Filled) Data: 6765-029 SB-20-SS1-0-2 02-NOV-94 13:15 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114366:100) HG/7470/Q4 COLD 28-NOV-94 30-NOV-94 R11A (114366:100) ICAPT/6010/Q4 COLD 01-MAY-95 R11A 28-NOV-94 (114366:100) PM/IT/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114366:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114366:100) SE/7740/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114366:100) TL/7841/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114366:100) 6765-030 \$8-20-\$\$2-4-6 02-NOV-94 13:30 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required 1 AN - Amber Glass-250ML ABT/9310/04 COLD 28-NOV-94 03-MAY-95 R11A # **(114367;100)** 6765-031 SB-20-SS3-8-9 02-NOV-94 13:40 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/04 COLD 28-NOV-94 03-MAY-95 R11A (114368;100) HG/7470/Q4 COLD 28-NOV-94 30-NOV-94 R11A (114368: 100) ICAPT/6010/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114368:100) PM/IT/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114368:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114368:100) SE/7740/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114368:100) TL/7841/Q4 COLD 28-NOV-94 01-MAY-95 R11A (114368:100) 6765-032 SB-19-SS1-0-2 02-NOV-94 14:10 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required

COLD

COLD

COLD

COLD

COLD

COLD

COLD

3*=Sample has not been rad screened.

SB-19-SS2-4-6

AN - Amber Glass-250ML

ABT/9310/04

HG/7470/Q4

PM/IT/Q4

RAD/KPA/Q4

SE/7740/Q4

TL/7841/Q4

1 AN Amber Glass-250ML ABT/9310/Q4 S COLD

ICAPT/6010/Q4

28-NOV-94

28-NOV-94

28-NOV-94

28-NOV-94

28-NOV-94

28-NOV-94

28-NOV-94

02-NOV-94 14:15 04-NOV-94 09:45 02-DEC-94 FED-EX

03-MAY-95 R11A

30-NOV-94 R11A

01-MAY-95 R11A

01-MAY-95 R11A

03-MAY-95 R11A

01-HAY-95 R11A

01-MAY-95 R11A

(114369:100)

Screening not Required

(114369:100)

(114369:100)

(114369:100)

(114369:100)

(114369:100)

(114369:100)

28-NOV-94 03-MAY-95 R11A (114370;100)

Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
Master Sample Login: 6765

Draft: Final: Entered and Reviewed by: PM Review: _____ Sample Header Template:

Sample No. Comments # Container Ty Data:	Ctient ID pe	C-Matrix Analysis	Date: Co Class		Received Anal. Due Dat	Due Shipper te Hold Date Site	Rad Category Rad Sample No. (Container Numbers:% Filled)
6765-034	SB-19-SS3-6-8	Şolid	02	NOV-94 14:20	04-NOV-94 09:45	02-DEC-94 FED-EX	1 Screening not Required
1 AN - Amber G 1 1 1 1 1 1 1	lass-250ML	ABT/9310/Q4 HG/7470/Q4 ICAPT/6010/Q4 PM/IT/Q4 RAD/KPA/Q4 SE/7740/Q4 TL/7841/Q4	s s s s s s s	COLD COLD COLD COLD COLD COLD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A	(114371:100) (114371:100) (114371:100) (114371:100) (114371:100) (114371:100) (114371:100)
6765-035	SB-23-SS1-2-4	Solid	02	NOV-94 15:30	04-NOV-94 09:45	02-DEC-94 FED-EX	1 Screening not Required
1 AN - Amber G 1 1 1 1 1 1 1	l diss: 250NL	ABT/9310/04 HG/7470/04 ICAPT/6010/04 PM/IT/04 RAD/KPA/04 SE/7740/04 TL/7841/04	\$ \$ \$ \$ \$ \$	COLD COLD COLD COLD COLD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A 01-MAY-95 R11A	(114372:100) (114372:100) (114372:100) (114372:100) (114372:100) (114372:100) (114372:100)
6765-036	\$8-23-\$\$2-6-8	solid	02-	NOV-94 15:40	04-NOV-94 09:45	02-DEC-94 FED-EX	1 Screening not Required
1 AN - Ambers G 1 1 1 1 1 1 1	(ass-250MU::::::::::::::::::::::::::::::::::::	ABT/9310/04 HG/7470/04 ICAPT/6010/04 PM/IT/04 RAD/KPA/04 SE/7740/04 TL/7841/04	s s s s	COLD COLD COLD COLD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A	(114373:100) (114373:100) (114373:100) (114373:100) (114373:100) (114373:100) (114373:100) (114373:100)
6765-037	\$8+22+\$\$1+2+4	Şolid	02•	NOV-94 16:05 (04-NOV-94 09:45	02-DEC-94 FED-EX	1 Screening not Required
1 . AN. a Amberii G 1 1 1 1 1 1 1	\ өв я • 250мL	ABT/9310/Q4 HG/7470/Q4 ICAPT/6010/Q4 PM/IT/Q4 RAD/KPA/Q4 SE/7740/Q4 TL/7841/Q4	*****	COLD COLD COLD COLD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A	(114374:100) (114374:100) (114374:100) (114374:100) (114374:100) (114374:100) (114374:100)

^{3*=}Sample has not been rad screened.

Project Manager: W. Price

Quanterra November 30, 1994 03:18 pm
Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: _____ PM Review:___ Sample Header Template:

Sample No. Client ID Comments # Container Type	C:Matrix Analysis	Date: Col		Received (Due Shipper	Rad Category Rad Sample No.
Data:				Anat. pue pate	Hold Date Site	(Container Numbers:% Filled)
6765-038 \$8-22-\$\$2-6-7	Solid	02-	NOV-94 16:10	04-NOV-94 09;45	02-DEC-94 FED-EX	1 Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4 HG/7470/Q4 ICAPT/6010/Q4 PM/IT/Q4 RAD/KPA/Q4	S S S S S S S S S S S S S S S S S S S	COLD COLD COLD	28-NOV+94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A	(114375:100) (114375:100) (114375:100) (114375:100)
1	SE/7740/Q4 TL/7841/Q4	s s	COLD	28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 01-MAY-95 R11A 01-MAY-95 R11A	(114375:100) (114375:100) (114375:100)
5765-039 \$8-18-\$\$1-2-4	Solid	02-	NOV-94 14:50	04-NOV-94 09:45 (2-DEC-94 FED-EX	1 Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4		COLD	28-NOV-94	03-MAY-95 R11A	(114376;100)
5765-040 \$8-18-\$\$2-4-6	Solid	02-	NOV-94 14:55	04-NOV-94 09:45 (2-DEC-94 FED-EX	1 Screening not Required
1 - AN Amber: Glass+250ML	ABT/9310/Q4 HG/7470/Q4 ICAPT/6010/Q4 PM/IT/Q4 RAD/KPA/Q4 SE/7740/Q4 TL/7841/Q4	·····································	COLD COLD COLD COLD COLD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A	(114377;100) (114377;100) (114377;100) (114377;100) (114377;100) (114377;100) (114377;100)
5765-041 \$8-18-\$\$3-6-8	Solid	02-1	10V-94 15:00 (04-NOV-94 09:45 0	2-DEC-94 FED-EX	1 Screening not Required
1 1 1	ABT/9310/04 HG/7470/04 ICAPT/6010/04 PM/IT/04 RAD/KPA/04 SE/7740/04 TL/7841/04	S S S S S S S	COLD COLD COLD COLD COLD	28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94 28-NOV-94	03-MAY-95 R11A 30-NOV-94 R11A 01-MAY-95 R11A 01-MAY-95 R11A 03-MAY-95 R11A 01-MAY-95 R11A	(114378:100) (114378:100) (114378:100) (114378:100) (114378:100) (114378:100) (114378:100)
765-042 SB-16-SS1-0-2	Solid	03-1	OV-94 08:15 0	4-NOV-94 09:45 D	2-DEC-94 FED-EX	1 Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/Q4	ne in elektronisti (d. 1955) ordina (1966) filosofi (d. 1966)	**	The second of fluid of the SERVE	1965 - 1 1966 - 1965 - 1966 - 1966 - 1966 - 1966 - 1966 - 1966 - 1966 - 1966 - 1966 - 1966 - 1966 - 1966 - 1966	

^{3*=}Sample has not been rad screened.

Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by:

Comments		e. co	llected (Received D	ue	Shipper	Rad Category Rad Sample No.
# Container Type ta:	Analysis	Class	Preservative	Anal. Due Date	Hold D	ate Site	(Container Numbers:% Filled)
4	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY	'-95 R11A	
	PM/IT/Q4	S	COLD	28-NOV-94		-95 R11A	(114379:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94		-95 R11A	(114379:100)
	SE/7740/Q4	S	COLD	28-NOV-94		-95 R11A	(114379:100)
	TL/7841/Q4	S	COLD	28-NOV-94		-95 RIIA	(114379:100) (114379:100)
5-043 \$8-16-\$\$2-4-6	Solid	ี กร.	. NOV. DC . NO. NO. NO. NO. NO. NO. NO.				
	" "	,در	MO4:44 00:22 (04-NOV-94 09:45 0	2-DEC-94	FED-EX	1 Screening not Required
AN - Amber Glass-250ML			501.5	00 404 01		infelie. 199 Deg	
		S	COLD	28-NOV-94	PAM-EO	-95 R11A	DE DE C114380:100) DE
-044 \$8-16-\$\$3-8-9	Solid	03	NOV-94 08:30 C	04-NOV-94 09:45 0	2-DEC-94	FED-EX	1 Screening not Required
AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	OZ.MAV	-95 R11A	(44/704 456
	HG/7470/Q4	S	COLD	28-NOV-94		-94 R11A	 (114381:100): Harasii renderabili pakapar
	ICAPT/6010/Q4	S	COLD	28-NOV-94	07-DEC	-95 R11A	(114381:100)
	PM/IT/Q4	S	COLD	28-NOV-94		-95 R11A	(114381:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94		-95 R11A	(114381:100)
	SE/7740/Q4	S	COLD	28-NOV-94		-95 R11A	(114381:100)
	TL/7841/Q4	S	COLD	28-NOV-94		-95 R11A	(114381:100) (114381:100)
-045 SB-16-SS4-10-12	Solid	ox.	MOV. 0/ 08. / 0 0	/ 1101/ 0/ 00 /F no			
			WD4-34 00:40 D	4-NOV-94 09:45 02	2-DEC-94	FED·EX	1 Screening not Required
AN - Amber Glass-250ML	ABT/9310/Q4		COLD	30 000 00		· · · · · · · · · · · · · · · · · · ·	
The state of the s	HG/7470/Q4	9	COLD	28-NOV-94		-95 R11A	[- - (114382:100)
	ICAPT/6010/94	2	COLD	28-NOV-94		-94 R11A	(114382:100)
	PM/IT/94	9	COLD	28-NOV-94		-95 R11A	(114382:100)
	RAD/KPA/Q4	6		28-NOV-94		-95 R11A	(114382:100)
	SE/7740/Q4	2	COLD	28-NOV-94		-95 R11A	(114382:100)
	TL/7841/94	\$	COLD	28-NOV-94		-95 R11A	(114382:100)
	11/1041/44	>	COLD	28-NOV-94	02-MAY	-95 R11A	(114382:100)
·046 SB-17-SS1-2-4	Solid	03-	NOV-94 08:55 0	4-NOV-94 09:45 02	-DEC-94	FED-EX:	1 Screening not Regulred
							, Tritting lost Required
AN - Amber Glass-250ML	ABT/9310/Q4	s	COLD	28-NOV-94	OZ-MAV.	95 R11A	1 . 10/44/707/8664/01/100.100.000/04/200.000
	HG/7470/Q4	Š	COLD	28-NOV-94		94 R11A	(114383:100) 排制指導計劃計劃計劃計劃計劃
	ICAPT/6010/Q4	Š	COLD	28-NOV-94	U3-MAY-	95 R11A	(114383:100)
	PM/1T/Q4	Š	COLD	28-NOV-94	02-MAY-	95 R11A	(114383:100)
	RAD/KPA/Q4	s	COLD	28-NOV-94	03-MAY-		(114383:100)
	SE/7740/Q4	S	COLD	28-NOV-94		95 R11A	(114383:100)
	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-		(114383:100)
		-		NOT 74	OE WAL	73 KIIA	(114383:100)

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:___

Sample Header Template:						
Sample No. Client 1D Comments # Container Type Data	C-Matrix Analysis	Date: Co Class		Received [Due Shipper Hold Date Site	Rad Category Rad Sample No. (Container Numbers:% Filled)
VQLQ,	4.5					(container numbers:X Filled)
6765-047 SB-17-S\$2-4-6	Solid	03	-NOV-94 09:05	04-NOV-94 09:45 (02-DEC-94 FED-EX	1 Screening not Required
1 AN - Amber Glass-250ML	ABT/9310/44	s	COLD	28-NOV-94	03-MAY-95 R11A	(114384:100)
6765-048 \$8-17-\$\$3-6-8	Solid	03	NOV-94 09:10	04-NOV-94 09:45 0	12-nen-0/ reniev	A second
		ng ketyan 1777'	restrant and and and		A DEC 14 LED EX	Screening not Required
1 AN - Amber Glass-250ML	A8T/9310/Q4	s	COLD	28-NOV-94	07.MAY.00. h444	
1	HG/7470/Q4	č	COLD	28-NOV-94	03-MAY-95 R11A	(114385:100)
1	ICAPT/6010/Q4		COLD	28-NOV-94	01-DEC-94 R11A	(114385:100)
1	PM/IT/94	Š	COLD		02-MAY-95 R11A	(114385:100)
1	RAD/KPA/94	3		28-NOV-94	02-MAY-95 R11A	(114385:100)
1	SE/7740/Q4	s S	COLD	28-NOV-94	03-MAY-95 R11A	(114385:100)
i	TL/7841/Q4	•	COLD	28-NOV-94	02-MAY-95 R11A	(114385:100)
•	11/1041/44	S	COLD	28-NOV-94	02-MAY-95 R11A	(114385:100)
6765-049 SB-25-\$\$1-2-4	Solid	nx.	NUA-07 UO-7U	04-NOV-94 09:45 0	12-050-0/ FED. EV	**
				na una sa na an	TE-DEC. Ad LEN.EX	1 Screening not Required
de des a st mai total (managementario con conservo						
1 AN - Amber Glass-250ML	ABT/9310/94	· . S	COLD	28-NOV-94	03-MAY-95 R11A	
1	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114386:100)
1	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114386:100)
1	PM/11/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	
1	RAD/KPA/Q4	Š	COLD	28-NOV-94	03-MAY-95 R11A	(114386: 100)
1	SE/7740/Q4	Š	COLD	28-NOV-94		(114386:100)
1	TL/7841/94	S	COLD	28-NOV-94	02-MAY-95 R11A	(114386:100)
	12/10/1/47	3	COLD	20-NUV-94	02-MAY-95 R11A	(114386:100)
6765-050 \$8-25-\$\$2-6-8	Solid	03-	NOV-94 09:55	04-NOV-94 09:45 0	2-DEC-94 FED-FY	1 Screening not Required
						, actening for required
1 AN - Amber Glass-250ML	ABT/9310/Q4	s	COLD	30 000 01	07 www 05 middle	
	HG/7470/Q4			28-NOV-94	03-MAY-95 R11A	(114387: 100) **********************************
•		S	COLD	28-NOV-94	01-DEC-94 R11A	(114387:100)
•	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114387:100)
1	PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114387:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114387:100)
1	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114387:100)
1	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114387:100)
6765-051 SB-24-SS1-2-4						(114071100)
T107 T01	Solid	03•	NOV-94 10:15 (04-NOV-94 09:45 0	2-DEC-94 FED-EX	1 Screening not Required
		water for 120 more skill	194.	til til som er malviklik filtifi	Althor de Salan a Haine in L	
1 AN - Amber Glass-250ML	ABT/9310/Q4		COLD	28-NOV-94	03-MAY-95 R11A	of an at this Add Too san with high photocoporous come and a constant
	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114388:100)
	• • • •	-	~~LP	TO-MOA-24	OFFICTY4 KITA	(114388:100)

^{3*=}Sample has not been rad screened.

Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
Master Sample Login: 6765

Draft: Final: Entered and Reviewed by:_ PM Review:_

Container Type	Analysis	Class	Daggaranti		ue Shipper	Rad Category Rad Sample No.
9: 1		Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:% Filled)
, 1	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114388:100)
ĺ	PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114388:100)
I	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114388: 100)
İ	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114388:100)
	TL/7841/Q4	\$	COLD	28-NOV-94	02-MAY-95 R11A	(114388:100)
5-052 \$8-24-	-\$\$2-6-8 Solid	. (NOV-04 10-25 0	4-NOV-94 09:45 0	2 DEC 0/ PED 04	
			MOV 74 10.22 0	4.40A.A4 0A:40	2-DEC-94 FED-EX	1 Screening not Required
AM - Amber Glass-250M	Michigaliae - Cal Entroques (Actaba)					
AM MINOR GEORGE	주로마다 바다 다리고 되어서 단추하면 원 취 진원 원장은 편편 되었다. 당신 (Pickel)	S	COLD	28-NOV-94	03-MAY-95 R11A	76 (114389:100) (Indianalisa in Indianalisa Indianalisa Indianalisa Indianalisa Indianalisa Indianalisa Indiana
ı	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114389:100)
i	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114389:100)
	PM/1T/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114389:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114389:100)
	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114389:100)
	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114389:100)
-053 ss-27-	SS1-2-4 Solid	03-	NOV-94 11:00 0	4-NOV-94 09:45 0	2-ner-ol seniev	• • • · · · · · · · · · · · · · · · · ·
					C DEC. 74 TEW-EX	1 Screening not Required
AN - Amber Glass-250M	IL ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	4441700
	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114390; 100)
	ICAPT/6010/Q4	Š	COLD	28-NOV-94		(114390:100)
	PM/1T/Q4	Š	COLD	28-NOV-94	02-MAY-95 R11A	(114390:100)
	RAD/KPA/Q4	Š	COLD		02-MAY-95 R11A	(114390:100)
	SE/7740/94	3	COLD	28-NOV-94	03-MAY-95 R11A	(114390:100)
	TL/7841/94	S	COLD	28-NOV-94 28-NOV-94	02-MAY-95 R11A 02-MAY-95 R11A	(114390:100)
-054 \$8-27-	\$\$2*6*8			· ·		(114390:100)
	SSZ-6-B Solid	U3-I	NOV-94 11:10 04	4-NOV-94 09:45 02	P-DEC-94 FED-EX	1 Screening not Required
AN - Amber Glass-250M	Billionis Cold column to the manager		,	7 27 38 1		
vu withti nidskithill		\$	COLD	28-NOV-94	03-MAY-95 R11A	(114391:100)
	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114391:100)
	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114391:100)
	PM/IT/Q4	Ş	COLD	28-NOV-94	02-MAY-95 R11A	(114391:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114391:100)
	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114391:100)
	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114391:100)
-055 sa+20+	SS1+2+4 Solid		1011 01 44 70 01			(
	4V. 4 7 BOLIG	03-1	100-94 11:30 04	-NOV-94 09:45 02	-DEC-94 FED-EX	1 Screening not Required
All a Amhan Class arms		was to see the second	un e Andrea	e transport de la companya de la companya de la companya de la companya de la companya de la companya de la co		
AN - Amber Glass-250ML	하는 아이들 아이들 아이들 아이들 때문에 대한 아이들에 가장 하는 것이 되었다. 그는 사람들은 사람들이 되었다.	S	COLD	28-NOV-94	03-MAY-95 R11A	(114392-100)
	HG/7470/Q4	e	COLD	28-NOV-94	01-DEC-94 R11A	(114392:100)

^{3*=}Sample has not been rad screened.

Project Manager: W. Price

Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by:

ole No. Client ID Comments	C-Matrix	Pate: Col	llected	Received D	ue Shipper	Rad Category Rad Sample No.
Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:X Filled)
And the contract of the contra	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	
	PM/1T/Q4	Š	COLD	28-NOV-94	02-MAY-95 R11A	(114392:100)
	RAD/KPA/Q4	š	COLD	28-NOV-94	03-MAY-95 R11A	(114392:100)
	SE/7740/Q4	Š	COLD	28-NOV-94	02-MAY-95 R11A	(114392:100)
	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114392:100) (114392:100)
-056 SB-29-SS2-4-6	Solid	03-	NOV-94 11:35	04-NOV-94 09:45 0		•
				id native diver A	+ hrm 34 Lenley	1 Screening not Required
AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	V. data-a. (114393) 100) illiminata dilitara dia casa da casa
	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114393:100)
	ICAPT/6010/Q4	s	COLD	28-NOV-94	02-MAY-95 R11A	(114393:100)
	PM/1T/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114393:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114393:100)
	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114393:100)
	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114393:100)
057 SB-28-SS1-2-4	Solid	03-	NOV-94 12:45	04-NOV-94 09:45 0	2-DEC-94 FED-EX	1 Screening not Required
AN - Amber Glass-250ML	ABT/9310/Q4	- i er e S r - i .	COLD	28-NOV-94	03-MAY-95 R11A	
	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114394:100)
	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114394:100)
	PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114394:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114394:100)
	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114394:100)
	TL/7841/94	S	COLD	28-NOV-94	02-MAY-95 R11A	(114394:100)
058 \$8-28-\$\$2-6-8	Salid	03-	NOV-94 12:55 (04-NOV-94 09:45 02	2-DEC-94 FED-EX	1 Screening not Required
AN - Amber Glass-250ML	ABT/9310/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114395:100) Hattilland die angenationalis
	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114395:100)
	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114395:100)
	PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114395:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	
	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114395:100) (114395:100)
	TL/7841/Q4	s	COLD	28-NOV-94	02-MAY-95 R11A	(114395:100)
059 SB-26-SS1-2-4	Solid		MOV-04 13-45 0	1/ HOLL BY BOOK OF		
	30.10		404-A# 12:42 D	04-NOV-94 09:45 02	'-DEC-94 FED•EX	1 Screening not Required
AN - Amber Glass-250ML	ABT/9310/Q4	uaran s	COLD	28-NOV-94	03-MAY-95 R11A	(114396:100)

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm

Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
Master Sample Login: 6765

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template: Sample No. Client ID C-Matrix Date: Collected Received Shipper Rad Category Rad Sample No. Comments Container Type Analysis Class Preservative Anal. Due Date Hold Date Site Data: (Container Numbers: % Filled) ICAPT/6010/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114396:100) PM/1T/Q4 S COLD 28-NOV-94 02-MAY-95 R11A (114396:100) RAD/KPA/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114396:100) SE/7740/Q4 S COLD 28-NOV-94 02-MAY-95 R11A (114396:100) TL/7841/04 COLD 28-NOV-94 02-MAY-95 R11A (114396:100) 6765-060 \$8-26-\$\$2-6-8 Solid 03-NOV-94 13:55 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114397:100) HG/7470/Q4 COLD 28-NOV-94 01-DEC-94 R11A (114397:100) ICAPT/6010/Q4 S COLD 28-NOV-94 02-MAY-95 R11A (114397:100) PM/IT/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114397:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114397:100) SE/7740/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114397:100) TL/7841/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114397:100) 6765-061 SB-31-SS1-2-4 03-NOV-94 14:15 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114398:100) HG/7470/Q4 COLD 28-NOV-94 01-DEC-94 R11A (114398:100) ICAPT/6010/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114398:100) 1 PM/IT/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114398:100) 1 RAD/KPA/Q4 COLD 03-MAY-95 R11A 28-NOV-94 (114398:100) SE/7740/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114398:100) TL/7841/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114398:100) 6765-062 SB-31-SS2-6-8 03-NOV-94 14:25 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114399:100) HG/7470/Q4 COLD 28-NOV-94 01-DEC-94 R11A (114399:100) ICAPT/6010/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114399:100) PM/IT/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114399:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114399:100) SE/7740/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114399:100) TL/7841/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114399:100) 6765-063 SB-32-SS1-2-4 03-NOV-94 14:45 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A - (114400;100) HG/7470/Q4 COLD 28-NOV-94 01-DEC-94 R11A (114400:100)

3*=Sample has not been rad screened.

Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765

Project Manager: W. Price

3*=Sample has not been rad screened.

Draft: Final: Entered and Reviewed by:_____ PM Review:

ple No. Client Comments	ID C-Matrix	Date: Co	llected i	Received D	ue Shipper	Rad Category Rad Sample No.
Container Type a:	Analysis	Class	Preservative	Anal. Due Date	Hold Date Site	(Container Numbers:% Filled)
1	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114400:100)
4	PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114400:100)
4	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114400:100)
4	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114400:100)
1	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114400:100)
5-064 \$8-32-\$\$2	:-6-8 Solid	03-	NOV-94 14:50 0	4-NOV-94 09:45 0	2-DEC-94 FED-EY	
					, , , , , , , , , , , , , , , , , , ,	1 Screening not Required
AN - Amber Glass-250ML	######################################	s	COLD	28-NOV-94	03-MAY-95 R11A	/43//01/400N: I debte to the control of the control
1	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114401:100)
]	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114401:100)
1	PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114401:100) (114401:100)
1	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114401:100)
1	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114401:100)
1	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114401:100)
5-065 SB-30-SS1	-2-4 Solid	03	NOV-94 15:05 0	4-NOV-94 09:45 0	2-DEC-94 FED-EX	1 Screening not Required
		최 : 기구경말하는				
AN - Amber Glass-250ML	ABT/9310/94	S	COLD	28-NOV-94	03-MAY-95 R11A	(114402:100)
	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114402:100)
	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114402:100)
	PM/IT/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114402:100)
	RAD/KPA/Q4	S	COLD	28-NOV-94	03-MAY-95 R11A	(114402:100)
	SE/7740/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114402:100)
ı	TL/7841/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114402:100)
5-066 \$8-30-\$\$2	-6·8 Solid	03-	NOV-94 15:15 0	4-NOV-94 09:45 02	2-DEC-94 FED-EX	1 Screening not Required
AN - Amber Glass-250ML	ABT/9310/04	\$	COLD	28-NOV-94	03-MAY-95 R11A	(114403:100):486666688888888888888888
	HG/7470/Q4	S	COLD	28-NOV-94	01-DEC-94 R11A	(114403:100)
	ICAPT/6010/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	(114403:100)
	PM/1T/Q4	S	COLD	28-NOV-94	02-MAY-95 R11A	
	RAD/KPA/Q4	Š	COLD	28-NOV-94	03-MAY-95 R11A	(114403:100)
1	SE/7740/Q4	Š	COLD	28-NOV-94		(114403:100)
l	TL/7841/94	š	COLD	28-NOV-94	02-MAY-95 R11A 02-MAY-95 R11A	(114403:100) (114403:100)
5-067 SB+33-SS1	-0-2 Solid	04+	NOV-94 08:05 04	4-NOV-94 09:45 02		•
	7.				Supply FEDICA	1 Screening not Required
AN - Amber Glass-250ML	######################################		COLD	28-NOV-94	03-MAY-95 R11A	(114404:100)
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Quanterra November 30, 1994 03:18 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Master Sample Login: 6765 Project Manager: W. Price Entered and Reviewed by:__ PM Review: Sample Header Template: Sample No. Client ID C-Matrix Date: Collected Received Shipper Comments Rad Category Rad Sample No. Container Type Analysis Class Preservative Anal. Due Date Hold Date Site (Container Numbers: % Filled) Data: ICAPT/6010/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114404:100) PM/IT/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114404:100) RAD/KPA/Q4 S COLD 28-NOV-94 03-MAY-95 R11A (114404:100) SE/7740/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114404:100) TL/7841/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114404:100) 6765-068 04-NOV-94 08:10 04-NOV-94 09:45 02-DEC-94 FED-EX Solid Screening not Required 1 AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A E(114405;100) 6765-069 \$8-33-\$\$3-8-10 04-NOV-94 08:15 04-NOV-94 09:45 02-DEC-94 FED-EX Screening not Required AN - Amber Glass-250ML ABT/9310/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114406:100) HG/7470/Q4 COLD 28-NOV-94 01-DEC-94 R11A (114406:100) ICAPT/6010/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114406:100) PM/1T/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114406:100) RAD/KPA/Q4 COLD 28-NOV-94 03-MAY-95 R11A (114406:100) SE/7740/Q4 COLD 28-NOV-94 02-MAY-95 R11A (114406:100)

COLD

28-NOV-94

02-MAY-95 R11A

(114406:100)

TL/7841/Q4

^{3*=}Sample has not been rad screened.

Temp 6°C CUR #D293

No. 01259

Chain-of Custody Record

ENGINEERING-SCIENCE

400 ADS WOODS MILL ROAD SOUTH, SUITE 150 3 20

CHESTERFIELD, MISSOURI 63017

(314) 576-7330 FAX (314) 576-2702

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F	Relinquished by: (Signature) Date / Time Received for Laboratory to (Signature)							Date / Time									
			Di	stribu	tion O	riginal Accompanies Shipment. Copy returned with	Report.							Cooler #:			

Parsons ENGINEERING-SCIENCE

400 425 WOODS MILL ROAD SOUTH, SUITE 150 330 CHESTERFIELD, MISSOURI 63017 (314) 576-7330 FAX (314) 576-2702

Temp 6°C CUR# 2243 No. 01260

Chain-of Custody Record

PROJ. NO. PROJECT NAME/LOCATION MSD ASh Pile, Amelica St., StLouis Mo **PARAMETER** NO. SAMP/CERS: (Signature) OF CON-**TAINERS** REMARKS GRAB. STA. NO. DATE TIME STATION LOCATION 20 Full 11-2 0 800 SB-11-551-6-7_ 10090 0805 11-2 0810 11-2 08.38 0845 0855 0900 11-2 0935 11-2 0950 100% 1030 50% 1009 Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received for Laboratory by: Date / Time Remarks Method of Shipment:____ (Signature) Airbill #: Laboratory: ____ Distribution Original Accompanies Shipment. Copy returned with Report. Cooler #: ____

Parson 5 ENGINEERING-SCIENCE

400 WOODS MILL ROAD SOUTH, SUITE 450-330

CHESTERFIELD, MISSOURI 63017

(314) 576-7330 FAX (314) 576-2702

Chain-of Custody Record

No. 01261

PROJ. NO.										*****************							
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Date / Time Heceived by: (Signature)						Relinq	uished	1 by: (S	ignature)	***************************************		Date /	Time	Received by: (Signature)		
11-4-94 0945 finh Will																	
Relinquished by: (Signature) Date / Time Received for Labbratory b					<i>/</i> :		Date	/ Time	R	emari	KS	Method o	of Shipm	ment:			
							Airbill #:										
The second secon	Distribution Original Accompanies Shipmeni. Copy returned with					Report.	**************************************	Laboratory:Cooler #:									

ENGINEERING-SCIENCE

400425 WOODS MILL ROAD SOUTH, SUITE 150 3 3 0 CHESTERFIELD, MISSOURI 63017 (314) 576-7330 FAX (314) 576-2702 Temp 3°C CUR# 224, No. 01262

Chain-of Custody Record

PROJ. NO. PROJECT NAME/LOCATION 726589 MSD Ash Pile, Angelica St. St Louis **PARAMETER** NO. OF CON-**TAINERS** REMARKS STA. NO. DATE TIME STATION LOCATION 08/5 0710 N-3 0955 1015 58-24-552-6-8 1025 1100 Soul 802 A 100% Relinquished by: (Signature) Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Received for Laboratory by: Date / Time Date / Time Remarks Method of Shipment:_____ (Signature) Airbill #: ___ Laboratory: ____ Distribution Original Accompanies Shipment. Copy returned with Report. Cooler #: _

HOW HOW WOODS MILL ROAD SOUTH, SUITE 450 330 TONG 3°C WITH 224/ CHESTERFIELD, MISSOURI 63017

(314) 576-7330 FAX (314) 576-2702

Chain-of Custody Record

PROJECT NAME/LOCATION PROJ. NO. Ash Pile Angelica St. StLouis 726589 **PARAMETER** NO. SAMPLERS: (Signatury) OF CON-**TAINERS** REMARKS STA. NO. DATE TIME STATION LOCATION 1255 1355 1415 11-3 1425 11-3 1445 11-3 1450 X 11-3 1505 X 11-3 11575 X 0805 11-4 0810 Soil 8021/00% AG-Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received for Laboratory by: Date / Time Remarks (Signature) Method of Shipment:____ Airbill #:_ Laboratory: Distribution Original Accompanies Shipment. Copy returned with Report. Cooler #: ____

AS - St. Louis

SIGNATURE	ACTION TAKEN	NAME OF PERSON DOCUMENTING CONVERSATION	ACTION REQUIRED						tala to go	SUMMARY	muslate lad 5	SUBJECT SONO CONTRACT WITH YOU SUBJECT			CONVERSATION RECORD
MILE DATE		SIGNATURE DATE							by coc's Sabil		ampl 1	bureau, etc.) TELEPH	OUTGOING INCOMING		TIME
		11/2/2										TELEPHONE NO.	NAMESYMBOL INT	4	DATE / PROJECT NO

Environmental Services	
C.U.R. and C.U.C.	
DATE: 11-4-54	
TIME: 1/50	Work Order No. 1764
BY: July Walter Condition 1	Work Order No.: 676\$5
S	t. Louis Laboratory
Client:	n. 11-4-01/ 601/
Project No: /35.08	Date: 17-9-94 6945
Analysis Requested: Refer to RFA/COC	Initiated by: Mark Nill
Client Sample Numbers Affected: Entire Login	RFA/COC Numbers: 6/259,0/260,0/26/
Circle (Check all that apply): Circle	Number to Denote that Item was Evaluated. "NA" = "Not Applicable".
1. NA Not enough sample received for proper anal	
Received approximately:	
2	position by mo.
3	sample received with approximately
☐ Cooler temperature not within 4°C ± 2°	nun neadspace.
Record temperature: 4°C	Sample ID on container does not match sample ID
□ pH	on paperwork. Explain:
other:	See Note
Sample received in improper container.	
Sample received without proper paperwork.	All coolers on airbill not received with shipment.
without proper paperwork.	Explain: 13. Other (explain below):
Paperwork received without same	Shipping containers not rad surveyed.
Topologic received without sample.	
No sample ID on sample container.	
Sumple#15-5B-14-5502-4-	SBI
Notes: 0	6, 58-13-5502-6-8, 5B-15-5502-6-8,) Out
1 Fages Walths SR-14-50-4-6, S	873552-68 S-B-15-552-6-8 / Match
Sample # 5 - SB-16-SSO 2-4-6, S * Paperwork # - SB-16-SS 2-4-6, S	B-17-5502 24-6, SB-18-550224-6,) Pont March B-17-552-4-6 1.8-15-550224-6,) Pont March
	-20-5502-4-6, 5B-29-552-6-8) Don't Matels
Corrective Action: >B19->>2-9-6 58-2	20-552-4-6, 5B-29-552-4-6) Don't Malels
Client's Name	
	ermed verbally on: By:
Info	rmed in writing on: By:
☐ Sample(s) processed "as is". Comments:	
☐ Sample(s) on hold until:	
	If released, notify:
ample Control Supervisor Review: (or designate)	Date
roject Management Review:	Date:
and the restaurant of the second of the seco	Date:
SIGNED ORIGINAL MU	ST BE RETAINED IN THE PROJECT FILE

wuanterra

Yuanterra

Environmental Services

C.U.R. and C.U.C. COPIEDTO: OK/WP DATE: //-4-94 TIME:

Work Order No.:______Upon Receipt Variance Report

Condition Upon Receipt Variance Report St. Louis Laboratory

Clie	ent:			Date	5 ÷	11-4-94	104				
Pro	ject No:		THE RESIDENCE OF THE PROPERTY	Initiated by: Rich Well							
9		equested: Refer to RFA/COC	adamata waxaa aa	RFA	vcoc	Numbers: 0/262	2,0/263				
ě.		ole Numbers Affected: Entire Lo	The state of the s	PANAGO CALANDO DE ANTONOMOS DE LA COMPANA	- Canada de Canada de Canada de Canada de Canada de Canada de Canada de Canada de Canada de Canada de Canada d						
Cor	ndition/`	Variance (Check all that apply): Cir	cle Number to	Denote	that Ite	em was Evaluated. "NA"	Not Applicable.				
1.	NA D	Not enough sample received for proper Received approximately: Sample received broken/leaking.		9. 10.	NA NA	Custody tape disturbed/bro Sample splits performed b Volatile sample received w	y lab.				
O.	> 0	Sample received without proper preserve	tive.		-	mm hea					
		Cooler temperature not within 4°C:		(11)		Simple ID on container do on paperwork. Explain:	_				
		O pH	ndo-Chanadara de Nacional de Santa de Santa de Santa de Santa de Santa de Santa de Santa de Santa de Santa de S								
4		other: Sample received in improper container. Sample received without proper paperwo		13.		All coolers on airbill not re	ceived with shipment.				
			· m·	13.	U	Other (explain below):					
6		Paperwork received without sample.	This Mile Colonial Communication and Colonial Co			Shipping containers not rad	surveyed.				
5		No sample ID on sample container.									
Notes											
Corre	ective Ac	tion:									
	Client's	Name:	Informed verba	Ily on		~					
	Client's	described which is a market and a construction of the second of the seco	Informed in wri	•	Classical Control of the Control of	By:	Mindra destante por esta de la constitución de la c				
	C1-/-				60-100 Million Colores	Sy:					
		s) processed "as is". Comments:		nga manana manana marina	etricalismost on successivative		TRANSPARANTARIA PROPERTURA DE CONTROL DE CON				
•	~emhic(a	OH HOM WHILE:	Service Constitution of the CONTROL OF THE PROPERTY OF	_ If re	eleased, notify:	antitima apartampan kena kena kena kena kena kena kena ke					
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Quanterra November 23, 1994 11:40 am Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Project Manager: Master Sample Login: 6720 W. Price Draft: Entered and Reviewed by: Sample Header Pemplate: Sample No. Client ID C-Matrix Date: Collected Comments Received Due Shipper Rad Category Rad Sample No. Container Type Analysis Data: Class Preservative Anal. Due Date Hold Date Site (Container Numbers: % Filled) 6720-001 \$801 \$31-2-4 Solid 31-OCT-94 09:15 31-OCT-94 15:45 30-NOV-94 CLIENT Screening not Required - Glass Jar-250ML ABT/9310/04 COLD 23-NOV-94 29-APR-95 S15F HG/7470/Q4 (113510:100) COLD 23-NOV-94 28-NOV-94 \$15F ICAPT/6010/Q4 (113510:100) COLD 23-NOV-94 29-APR-95 \$15F PM/IT/Q4 (113510:100) COLD 28-NOV-94 29-APR-95 \$15F RAD/KPA/Q4 (113510:100) COLD 23-NOV-94 29-APR-95 S15F SE/7740/Q4 (113510:100) COLD 23-NOV-94 29-APR-95 S15F TL/7841/Q4 (113510:100) COLD 23-NOV-94 29-APR-95 S15F (113510:100) 6720-002 S8-01-SS3-6-8 Solid 31-OCT-94 09:40 31-OCT-94 15:45 30-NOV-94 CLIENT Screening not Required Glass Jar-250ML ABT/9310/04 COLD 23-NOV-94 29-APR-95 \$15F HG/7470/04 (113512:100) COLD 23-NOV-94 28-NOV-94 S15F ICAPT/6010/Q4 (113512:100) COLD 23-NOV-94 29-APR-95 \$15F PM/IT/Q4 (113512:100) COLD RAD/KPA/Q4 28-NOV-94 29-APR-95 S15F (113512:100) COLD 23-NOV-94 29-APR-95 \$15F SE/7740/Q4 (113512:100) COLD 23-NOV-94 29-APR-95 \$15F TL/7841/Q4 (113512:100) COLD 23-NOV-94 29-APR-95 S15F (113512:100) 6720-003 \$8-01-\$\$4-14-16 Solid 31-007-94 09:40 31-007-94 15:45 30-NOV-94 CLIENT Screening not Required - Glass Jar-250ML ABT/9310/Q4 23-NOV-94 29-APR-95 \$15F (113513:100) HG/7470/Q4 COLD 23-NOV-94 28-NOV-94 \$15F ICAPT/6010/Q4 (113513:100) COLD 23-NOV-94 29-APR-95 \$15F (113513:100) PM/IT/Q4 COLD 28-NOV-94 29-APR-95 \$15F RAD/KPA/Q4 (113513:100) S COLD 23-NOV-94 29-APR-95 S15F SE/7740/Q4 (113513:100) COLD 23-NOV-94 29-APR-95 \$15F (113513:100) TL/7841/Q4 COLD 23-NOV-94 29-APR-95 S15F (113513:100) 6720-004 58-02-551-2-4 Solid 31-00T-94 10:20 31-00T-94 15:45 30-NOV-94 CLIENT Screening not Required Glass Jar-250ML ABT/9310/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113514:100) HG/7470/Q4 COLD 23-NOV-94 28-NOV-94 S15F ICAPT/6010/Q4 (113514:100) 0.100 23-NOV-94 29-APR-95 \$15F PM/1T/Q4 (113514:100) COLD 28-NOV-94 29-APR-95 S15F RAD/KPA/Q4 (113514:100) S COLD 23-NOV-94 29-APR-95 S15F SE/7740/Q4 (113514:100) S COLD 23-NOV-94 29-APR-95 S15F TL/7841/Q4 (113514:100) COLD 23-NOV-94 29-APR-95 \$15F (113514:100) 3*=Sample has not been rad screened.

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Quanterra November 23, 1994 11:40 am

Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0

Master Sample Login: 6720 Project Manager: W. Price Draft: Entered and Reviewed by: PM Review: Sample Header Template: Sample No. Client ID C-Matrix Date: Collected Comments Received Rad Category Rad Sample No. Container Type Analysis Class Preservative Anal. Due Date Hold Date Site Data: (Container Numbers:% Filled) 6720-005 \$802-\$83-8-9.5 Solid 31-OCT-94 10:40 31-OCT-94 15:45 30-NOV-94 CLIENT Screening not Required GN - Glass Jar-250ML ABT/9310/Q4 23-NOV-94 29-APR-95 S15F (113515:100) HG/7470/Q4 COLD 23-NOV-94 28-NOV-94 S15F (113515:100) ICAPT/6010/Q4 COLD 23-NOV-94 29-APR-95 S15F (113515:100) PM/IT/Q4 COLD 28-NOV-94 29-APR-95 \$15F (113515:100) RAD/KPA/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113515:100) SE/7740/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113515:100) TL/7841/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113515:100) 6720-006 58-03-551-2-4 31-0CT-94 11:10 31-0CT-94 15:45 30-NOV-94 CLIENT 1 Screening not Required GN - Glass Jar-250ML ABT/9310/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113516:100) HG/7470/04 COLD 23-NOV-94 28-NOV-94 S15F (113516:100) ICAPT/6010/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113516:100) PM/17/Q4 COLD 28-NOV-94 29-APR-95 \$15F (113516:100) RAD/KPA/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113516:100) SE/7740/Q4 COLD 23-NOV-94 29-APR-95 S15F (113516:100) TL/7841/Q4 23-NOV-94 29-APR-95 S15F (113516:100) 6720-007 \$8-04-\$\$1-2-4 31-0CT-94 13:15 31-0CT-94 15:45 30-NOV-94 CLIENT 1 Screening not Required GN - Glass Jar-250ML ABT/9310/Q4 COLD 23-NOV-94 29-APR-95 S15F (113517:100) HG/7470/Q4 COLD 23-NOV-94 28-NOV-94 \$15F (113517:100) ICAPT/6010/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113517:100) PM/IT/Q4 COLD 28-NOV-94 29-APR-95 S15F (113517:100) RAD/KPA/Q4 COLD 23-NOV-94 29-APR-95 S15F (113517:100) SE/7740/Q4 COLD 23-NOV-94 29-APR-95 S15F (113517:100) TL/7841/Q4 COLD 23-NOV-94 29-APR-95 \$15F (113517:100) 6720-008 \$805-\$\$2-6-8 31-0CT-94 14:10 31-0CT-94 15:45 30-NOV-94 CLIENT 1 Screening not Required GN - Gless Jan-250ML ABT/9310/04 COLD 23-NOV-94 29-APR-95 \$15F (113518:100) HG/7470/Q4 COLD 23-NOV-94 28-NOV-94 S15F (113518:100) ICAPT/6010/Q4 COLD 23-NOV-94 29-APR-95 S15F (113518:100) PM/IT/Q4 COLD 28-NOV-94 29-APR-95 S15F (113518:100) RAD/KPA/Q4 S COLD 23-NOV-94 29-APR-95 \$15F (113518:100) SE/7740/Q4 COLD 23-NOV-94 29-APR-95 S15F (113518:100)

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Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0
Master Sample Login: 6720 Project Manager: W. Price

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Parsons

ENGINEERING-SCIENCE

400 WOODS MILL ROAD SOUTH, SUITE 450-330
CHESTERFIELD, MISSOURI 63017
(314) 576-7330 FAX (314) 576-2702

No. 01258

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	ormed verbally on: ormed in writing on:	By: By: released, notify:

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Wadii Gii u

APPENDIX D LABORATORY REPORTS FOR TCLP ANALYSES



Quanterra Incorporated 13715 Rider Trail North Earth City, Missouri 63045

314 298-8566 Telephone 314 298-8757 Fax RECEIVED

FEB 0 6 1995

ES-ST. LOUIS

CERTIFICATE OF ANALYSIS

Engineering Science 400 Woods Mill Road Suite 300 Chesterfield, MO 63017

February 2, 1995

Attention: Mr. Lee Gorday

Project number : 135.08

Date Received by Lab : November 4, 1994

Number of Samples : Ten (10) Sample Type : Solid

Subcontract Number : 726589-S-001

I. Introduction

On November 4, 1994, ten (10) solid samples were received by Quanterra, St. Louis from Engineering Science analyses. The results of these analyses, along with supporting quality control data and custody documents, are included in the attached report. Upon receipt at the laboratory, the samples were given the following laboratory ID numbers to correspond with its specific client ID's:

SB-11-SS2-4-6 SB-13-SS3-8-10 SB-14-SS1-0-2 SB-15-SS1-2-4 SB-22-SS2-6-7 SB-17-SS2-2-4 SB-13-SS2-6-8 SB-28-SS1-2-4 SB-32-SS2-6-8 SB-31-SS2-6-8 SB-32-SS2-6-8 SB-32-SS2-6-8 SB-32-SS2-6-8 SB-32-SS2-6-8 SB-32-SS2-6-8 SB-32-SS2-6-8 SB-32-SS2-6-8 SB-32-SS2-6-8
SB-32-SS2-6-8 7296-010



Engineering Science February 2, 1995 Project Number 135.08 page 2

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information, analytical results, and the appropriate detection limits.

The analysis requested included:

ICAP by EPA 6010 and Mercury by EPA method 7470, following TCLP extraction by EPA method 1311.

III. Quality Control

The Quality Assurance/Quality Control (QA/QC) information supporting this analysis can be found immediately following the analytical data. These data are used to assess the laboratory's precision and accuracy during the analytical procedure.

IV. Comments

Holding times expired prior to TCLP extraction due to client request for additional analysis. See non-conformance # SL-94-1110.

I certify that this Certificate of Analysis is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Reviewed and approved:

Wade H. Price Project Manager

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ITAS-St. Louis LABORATORY NONCONFORMANCE MEMO (NCM)

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PARAMETER(S):	H. C.	01-30	The same of the sa	
SAMPLE NUMBER(S) AFFECTED:	-	1296-07	010	
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NONCONFORMANIO				
NONCONFORMANCE [ch		<u>(s)]:</u>		
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22 CATEGORY II: Laboratory (litternal a variables	,	QAPP limits	contract limits
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2.3.1 QA/QC:				,
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Quanterra January 26, 1995 02:04 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Project Manager: Master Sample Login: 7296 W. Price Entered and Reviewed by: Sample Header Template: Sample No. Client ID C-Matrix Date: Collected Comments Received Due Shipper Rad Category Rad Sample No. Container Type Analysis Class Preservative Anal. Due Date Hold Date Site Data: (Container Numbers: % Filled) 7296-001 SB-11-SS2-4-6 Solid 02-NOV-94 08:05 04-NOV-94 09:45 30-JAN-95 FED-EX NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-014, CONTAINER #114351 Screening not Required 1 AN - Amber Glass-250ML EXTMETAL/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A HG/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A (123742:100) ICAP/TCLP/Q4 COLD 27-JAN-95 29-MAY-95 R11A (123742:100) 7296-002 SB+13-SS3-8+10 Solid 02-NOV-94 09:50 04-NOV-94 09:45 30-JAN-95 FED-EX 1 Screening not Required NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-022, CONTAINER #114359 AN - Amber Glass-250ML EXTMETAL/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A (123744:100) HG/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A (123744:100) ICAP/TCLP/Q4 COLD 29-MAY-95 R11A 27-JAN-95 (123744:100) 7296-003 SB-14-SS1-0-2 Solid. 02-NOV-94 10:15 04-NOV-94 09:45 30-JAN-95 FED-EX NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-023, CONTAINER #114360 Screening not Required AN - Amber Glass-250ML Common EXTMETAL/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A (123745:100) HG/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A (123745:100) ICAP/TCLP/Q4 COLD 27-JAN-95 29-MAY-95 R11A (123745:100) 7296-004 SB-15-SS1-2-4 Solid 02-NOV-94 11:40 04-NOV-94 09:45 30-JAN-95 FED-EX-000-1 NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-026, CONTAINER #114363 Screening not Required 1 AN - Amber Glass-250ML EXTMETAL/TCLP/Q4 COLD 30-NOV-94 R11A 27-JAN-95 (123748:100) HG/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A (123748:100) ICAP/TCLP/Q4 COLD 27-JAN-95 29-MAY-95 R11A (123748:100) 7296-005 SB-22-SS2-6-7 Solid 02-NOV-94 16:10 04-NOV-94 09:45 30-JAN-95 FED-EX NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-038, CONTAINER #114375 Screening not Required AN - Amber Glass-250ML EXTMETAL/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A (123753:100) 制度制度制度制度制度 HG/TCLP/Q4 COLD 27-JAN-95 30-NOV-94 R11A (123753:100) ICAP/TCLP/Q4 COLD 27-JAN-95 29-MAY-95 R11A (123753:100) SB-17-SS1-2-4 03-NOV-94 08:55 04-NOV-94 09:45 30-JAN-95 FED-EX NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-046, CONTAINER #114383 Screening not Required AN - Amber Glass-250ML EXTMETAL/TCLP/Q4 COLD 27-JAN-95 (123754:100) 01-DEC-94 R11A HG/TCLP/Q4 COLD 27-JAN-95 01-DEC-94 R11A ICAP/TCLP/Q4 (123754:100) COLD 27-JAN-95 30-MAY-95 R11A (123754:100)

3*=Sample has not been rad screened.

Quanterra January 26, 1995 02:04 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Project Manager: W. Price Master Sample Login: 7296 Final: Entered and Reviewed by: PM Review: Sample Header Template: Sample No. Client ID C-Matrix Date: Collected Comments Received Shipper Rad Category Rad Sample No. Container Type Analysis Class Preservative Anal. Due Date Hold Date Site Data: (Container Numbers: % Filled) 7296-007 SB-17-SS3-6-8 Solid NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-048, CONTAINER #114385 03-NOV-94 09:10 04-NOV-94 09:45 30-JAN-95 FED-EX Screening not Required AN - Amber Glass-250ML - EXTMETAL/TCLP/Q4 COLD 27-JAN-95 01-DEC-94 R11A HG/TCLP/Q4 (123755:100) 1 COLD 27-JAN-95 ICAP/TCLP/Q4 01-DEC-94 R11A (123755:100) COLD 27-JAN-95 30-MAY-95 R11A (123755:100) 7296-008 SB-28-SS1-2-4 Solid 03-NOV-94 12:45 04-NOV-94 09:45 30-JAN-95 FED-EX 1 Screening not Required NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-057, CONTAINER #114394 1 AN - Amber Glass-250ML EXTMETAL/TCLP/Q4 COLD 27-JAN-95 01-DEC-94 R11A HG/TCLP/Q4 (123756:100) COLD 27-JAN-95 01-DEC-94 R11A ICAP/TCLP/Q4 (123756:100) COLD 27-JAN-95 30-MAY-95 R11A 7296-009 (123756:100) SB-31-SS2-6-8 Solid NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-062, CONTAINER #114399 03-NOV-94 14:25 04-NOV-94 09:45 30-JAN-95 FED-EX Screening not Required AN - Amber Glass-250ML EXTMETAL/TCLP/Q4 COLD 27-JAN-95 01-DEC-94 R11A HG/TCLP/Q4 (123757:100) COLD 27-JAN-95 01-DEC-94 R11A ICAP/TCLP/Q4 (123757:100) COLD 27-JAN-95 30-MAY-95 R11A (123757:100) 7296-010 SS-32-SS2-6-8 Solid 03-NOV-94 14:50 04-NOV-94 09:45 30-JAN-95 FED-EX NOTE: THIS SAMPLE IS THE SAME AS LOGIN 6765-064, CONTAINER #114401 Screening not Required AN - Amber Glass-250ML EXTMETAL/TCLP/Q4 COLD 27-JAN-95 01-DEC-94 R11A 48 **(123758:100)** HG/TCLP/Q4 COLD 27-JAN-95 01-DEC-94 R11A ICAP/TCLP/Q4

27-JAN-95

30-MAY-95 R11A

COLD

(123758:100)

(123758:100)

^{3*=}Sample has not been rad screened.

Chain-of Custody Record

Parsons ENGINEERING-SCIENCE

400 ADS WOODS MILL ROAD SOUTH, SUITE +50 330

CHESTERFIELD, MISSOURI 63017
(314) 576-7330 FAX (314) 576-2702

No. 01259

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Temp 6°C CUR# 2243 No. 01260

Chain-of Custody Record

CHESTERFIELD, MISSOURI 63017 (314) 576-7330 FAX (314) 576-2702

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Parsons ENGINEERING-SCIENCE

400 TE WOODS MILL ROAD SOUTH, SUITE 450 330 CHESTERFIELD, MISSOURI 63017

Temp 6°C.

Laboratory:

Cooler #: ____

Chain-of Custody Record

(314) 576-7330

No. 01261 FAX (314) 576-2702 PROJ. NO. PROJECT NAME/LOCATION 726589 MSD Ash Pile Angelika St St Louis PARAMETER NO. SAMPLEBS: (Signature) OF CON-**TAINERS** REMARKS STA. NO. DATE | TIME STATION LOCATION 1155 100% 11-2 SB-20551-0-2 1315 11-21 SB-20-SSZ-4-6 1330 11-2 1340 SB 20 -SS3-8-9 11-2 1410 SB19-551-0-Z ャ X 10020 11-2-1415 80% 11.2 1420 11-2 1530 11-2 1540 11-2 1605 SB-22-SS1-2-4 SB-22-552-6-7 11-2/16/10 100% 11-2-1450 58-18-551-2-4 50% 11-2 1455 SB18-552-4-6 100% 11-2 1500 X SB-18-553-6-8 802AG 100% Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received for Laboratory by: Date / Time Remarks (Signature) Method of Shipment:____ Airbill #:_

Distribution Original Accompanies Shipment. Copy returned with Report.

ENGINEERING-SCIENCE

400425 WOODS MILL ROAD SOUTH, SUITE 150 3 3 0

CHESTERFIELD, MISSOURI 63017 (314) 576-7330 FAX (314) 576-2702

Temp 3°C 4/10# 224/ No. 01262

Chain-of Custody Record

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ENGINEERING-SCIENCE

224 |

CHESTERFIELD, MISSOURI 63017

(314) 576-7330 FAX (314) 576-2702

| CHESTERFIELD, MISSOURI 63017 |

CHESTERFIELD, MISSOURI 63017 |

(314) 576-7330 FAX (314) 576-2702

Chain-of Custody Record

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C.U.R. and C.U.P.

COPIEDTO: DK/WF

DATE: 1/-4-94

TIME: 1/50

organial is in Cogin 6765

Work Order No.: 67645
Condition Upon Receipt Variance Report
St. Louis Laboratory

Client:		11-4-94 0945
Project No: /35.08	Initiated	by: Such Wilson
Analysis Requested: Refer to RFA/COC		OC Numbers: 6/259, 0/260, 0/2
Client Sample Numbers Affected: Entire Login		1,000
Condition/Variance (Check all that apply): Circle	e Number to Denote that	Item was Evaluated. "NA" = "Not Applicable"
		The representation .
NA Not enough sample received for proper and		The state of the s
Received approximately:	9. NA	, and processed by max
Sample received broken/leaking.	10. NA	Volatile sample received with approximately
Paris and mander proper preservant		mm headspace.
Cooler temperature not within 4°C ± 2	2·C Y. 🗵	Sample ID on container does not match sample ID
Record temperature:	**************************************	on paperwork. Explain:
□ pH	Stiffs all distribution of general and state of the state	See Note
other:		
Sample received in improper container.	(12)	All coolers on airbill not received with shipment.
Sample received without proper paperwork.	. Explain: 13.	Other (explain below):
m	BE SERVICE OF STREET	Shipping containers not rad surveyed.
6. Paperwork received without sample.		
No sample ID on sample container.	- 2	
	SBI	
Sample #15-5B-14-5502-4	,	1 141C16
Page woht 58-14-552-4-6	<u>58-13-552-68.</u>	S-B-15-SSQ-6-8
Perfection K = 5B-16-552-4-6	515-17-552 -4-6 518-17-552 -4-6	1-6, SB-18-5502-4-6, Port 1 6 15B-18-552-4-6
Panysle #5 -56-19-5502-4-6/50	B-20-5502-4-6	15B-29-552-6-87 1 + 1111+
Sufferent#5 - 5819-552-4-6, 5B-	-20-552-4-6	5B-29-552-X-5
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Sample(s) processed "as is". Comments:	I	f released, notify:

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

C.U.F. and C.C.C.

COPIEDTO: DK/W/
DATE: //-4-94

TIME: //22

BY: W. M. (A.D.)

organiel is in bogin 6765 Work

Work Order No.: Condition Upon Receipt Variance Report St. Louis Laboratory

Client:	Dat	e:	11-4-94	1045
Project No:		ated b	y: Rily hider	and the second s
Analysis Requested: Refer to RFA/COC	RFA	V/COC	Numbers: <u>0/26</u> ;	2,0/263
Client Sample Numbers Affected: Entire Login			and a state of the	
Condition/Variance (Check all that apply): Circle	Number to Denote	that It	em was Evaluated. "NA"	■ "Not Applicable"
NA Not enough sample received for proper anal Received approximately:	lysis. (8)	□ NA	Custody tape disturbed/bro	oken/missing.
2. Sample received broken/leaking.	10.	NA	Volatile sample received w	-
Sample received without proper preservative	:.		mm hes	•
☐ Cooler temperature not within 4°C ± 2° Record temperature: 3°C □ pH			on paperwork. Explain:	-
other:	-			
4) Sample received in improper container.	(13.		All coolers on airbill not re	eccived with shipment.
Sample received without proper paperwork.	Explain: 13.		Other (explain below):	
6 Paperwork received without sample.	Piliterhannen		Shipping containers not rad	surveyed.
No sample ID on sample container.				
otes: Orrective Action:				
Client's Name: Info	ormed verbally on:		By:	
	ormed in writing on:	Windows Control	By:	
Sample(s) processed "as is". Comments:				
Sample(s) on hold until:		If re	eleased, notify:	
mple Control Supervisor Review: (or designate)			Date:	
ject Management Review:	- Anna Anna Anna Anna Anna Anna Anna Ann	The state of the s	Dates	арри девинального можения положения по под поставления по под поставления по под под под под под под под под п

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: SB-11-SS2-4-6

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 01/26/95

1					the same of the sa						001
Property Commence	Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit		Dilution
	Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	U.D.	440.4				
	Barium	EPA 6010	01/12/95		•	ND	MG/L		2.0	5.0	4
	Cadmium		01/12/93	01/16/95	01/17/95	DM	MG/L		0.80	100	4
		EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L			100	4
	Chromium	EPA 6010	01/12/95	01/16/95		NO	MU/L		0.020	1.0	4
	Lead	FD. (54.		01/10/95	01/17/95	DN	MG/L		0.080	5.0	4
	Salar:	EPA 6010	01/12/95	01/16/95	01/17/95	סא	MG/L		0 (0		•
	Selenium	EPA 6010	01/12/95	01/16/95	01/17/05				0.40	5.0	4
	Silver	EPA 6010			01/17/95	ND	MG/L		1.0	1.0	4
		EFA 0010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	E 0	
									0.040	5.0	4



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: SB-13-SS3-8-10

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 01/26/95

Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
EPA 6010	01/12/95	01/16/05	04.457.00		***************************************				or cacion
EDA KO10			01/17/95	ND	MG/L		2.0	5.0	4
	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	
EPA 6010	01/12/95	01/16/95	01/17/05	un			0.00	100	4
EPA 6010	01/12/05			UN	MG/L		0.020	1.0	4
504 (04a		01/16/95	01/17/95	DM	MG/L		0.080	5.0	4
EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG ZI		0.70		4
EPA 6010	01/12/95	01/16/95	01/17/05				0.40	5.0	4
EPA 6010	01 (13 (05			ND	MG/L		1.0	1.0	4
	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4
	EPA 6010 EPA 6010 EPA 6010 EPA 6010	EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95	Method Extract Date Prep Date EPA 6010 01/12/95 01/16/95 EPA 6010 01/12/95 01/16/95	Method Extract Date Prep Date Analyses Date EPA 6010 01/12/95 01/16/95 01/17/95 EPA 6010 01/12/95 01/16/95 01/17/95	Method Extract Date Prep Date Analyses Date Result EPA 6010 01/12/95 01/16/95 01/17/95 ND EPA 6010 01/12/95 01/16/95 01/17/95 ND	Method Extract Date Prep Date Analyses Date Result Units EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L	Method Extract Date Prep Date Analyses Date Result Units Qual. EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L	Method Extract Date Prep Date Analyses Date Result Units Qual. Limit EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 2.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.80 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.020 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.080 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.40 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.40 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0	Method Extract Date Prep Date Analyses Date Result Units Detection Regulatory Limit Regulatory Limit EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 2.0 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.80 100 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.020 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.080 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.40 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: SB-14-SS1-0-2

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 01/26/95

The state of the s	Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit		Dilution
	Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	1475		·			Newsymbol
	Barium	EPA 6010	04 (40 .00	•	01/11/93	ND	MG/L		2.0	5.0	4
	Cadmium	CFA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	,
		EPA 6010	01/12/95	01/16/95	01/17/95				0.00	100	4
	Chromium	EPA 6010	04 (45		V1/17/93	ND	MG/L		0.020	1.0	4
	Lead	C/ X 0010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.080	5.0	,
	Leaq	EPA 6010	01/12/95	01/16/95	01/17/95					3.0	4
	Selenium	EPA 6010	04 457 407		0.717793	ND	MG/L		0.40	5.0	4
	Silver	C/A 0010	01/12/95	01/16/95	01/17/95	ND	MG/L		1.0	1.0	
	31(VEF	EPA 6010	01/12/95	01/16/95	01/17/95				1.0	1.0	4
					01/11/93	ND	MG/L		0.040	5.0	4



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: SB-15-SS1-2-4

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 01/26/95

			THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	-						~~~
Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95						
Barium	EPA 6010	01/12/95			ND	MG/L		2.0	5.0	4
Cadmium		01/12/95	01/16/95	01/17/95	DM	MG/L		0.80	100	,
	EPA 6010	01/12/95	01/16/95	01/17/95	DN	NC (I			100	4
hromium	EPA 6010	01/12/95	01/1//05		טא	MG/L		0.020	1.0	4
ead			01/16/95	01/17/95	ND	MG/L		0.080	5.0	4
	EPA 6010	01/12/95	01/16/95	01/17/95	סא	MG/L		0.70		7
elenium	EPA 6010	01/12/95	01/16/95	01/17:05		.,,,,		0.40	5.0	4
ilver	EPA 6010			01/17/95	DH	MG/L		1.0	1.0	4
	CPA 8010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: S8-22-SS2-6-7

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 01/26/95

Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Detection Qual. Limit	Regulatory Level	Dilution
EPA 6010	01/12/95	01/16/95	01/17/95	DM	MG/I	2 0	Ε Λ	
EPA 6010	01/12/95	01/16/95	01/17/95					4
EPA 6010	01/12/95	01/16/95	01/17/95					4
EPA 6010	01/12/95	01/16/95	01/17/95	ND				
EPA 6010	01/12/95	01/16/95	01/17/95	ND				
EPA 6010	01/12/95	01/16/95	01/17/95	מא				4
EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L	0.040		4
	EPA 6010 EPA 6010 EPA 6010 EPA 6010 EPA 6010	Extract Date EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95	Method Extract Date Prep Date EPA 6010 01/12/95 01/16/95 EPA 6010 01/12/95 01/16/95	Method Extract Date Prep Date Analyses Date EPA 6010 01/12/95 01/16/95 01/17/95 EPA 6010 01/12/95 01/16/95 01/17/95	Method Extract Date Prep Date Analyses Date Result EPA 6010 01/12/95 01/16/95 01/17/95 ND EPA 6010 01/12/95 01/16/95 01/17/95 ND	Method Extract Date Prep Date Analyses Date Result Units EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L	Method Extract Date Prep Date Analyses Date Result Units Detection Limit EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 2.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.80 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.020 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.080 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.40 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0	Method Extract Date Prep Date Analyses Date Result Units Detection Regulatory Limit Regulatory Level EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 2.0 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.80 100 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.020 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.080 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.40 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: SB-17-SS1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 01/26/95

Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution		
Arsenic	EPA 6010	01/12/95	01/14/05		***************************************	***************************************						
Barium			01/16/95	01/17/95	ND	MG/L		2.0	5.0	4		
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	,		
	EPA 6010	01/12/95	01/16/95	01/17/95	MÁ	WC //			100	4		
Chromium	EPA 6010	01/12/95	01/1/205		NÓ	MG/L		0.020	1.0	4		
Lead			01/16/95	01/17/95	ND	MG/L		0.080	5.0	4		
a.1	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40				
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95				0.40	5.0	4		
Silver	EPA 6010	04.445.45		01/11/93	ND	MG/L		1.0	1.0	4		
	CFA BUIU	01/12/95	01/16/95	01/17/95	ND	MG/L		0.040	5.0	4		



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: SB-17-SS3-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 01/26/95

							10. 7296-007				
Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulator)	y Dilution	
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	110		-	No.			
Barium	EPA 6010	01/12/95			ND	MG/L		2.0	5.0	4	
Cadmium			01/16/95	01/17/95	ND	MG/L		0.80	100	4	
Chan	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L				4	
Chromium	EPA 6010	01/12/95	01/16/95	01/17:05		1147 6		0.020	1.0	4	
Lead	EPA 6010		01/10/93	01/17/95	ND	MG/L		0.080	5.0	4	
Selenium	CPA OUTU	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40		•	
acrem (Till	EPA 6010	01/12/95	01/16/95	01/17/95				0.40	5.0	4	
Silver	EPA 6010	01 (12 (02		01/11/93	ND	MG/L		1.0	1.0	4	
	2. 7. 30 (0	01/12/95	01/16/95	01/17/95	NO	MG/L		0.040	5.0	4	



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: SB-28-SS1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 01/26/95

Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit		Dilution
EPA 6010	01/12/95	01/16/05	04/47/00			***************************************			Ditation
FPA 6010			01/17/95	ND	MG/L		2.0	5.0	4
	01/12/95	01/16/95	01/17/95	ND	MG/L		0.80	100	
EPA 6010	01/12/95	01/16/95	01/17/95	ND	No. ()			100	4
EPA 6010	01/12/95	01/16/05		טא	MG/L		0.020	1.0	4
FP4 6010	.,		01/17/95	ND	MG/L		0.080	5.0	4
	01/12/95	01/16/95	01/17/95	ND	MG/L		0.40		
EPA 6010	01/12/95	01/16/95	01/17/05	NO				5.0	4
EPA 6010	01/12/95	01/16/06		NU	MG/L		1.0	1.0	4
		01710793	01/17/95	ND	MG/L		0.040	5.0	4
	EPA 6010 EPA 6010 EPA 6010 EPA 6010 EPA 6010	EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95 EPA 6010 01/12/95	Method Extract Date Prep Date EPA 6010 01/12/95 01/16/95 EPA 6010 01/12/95 01/16/95	Method Extract Date Prep Date Analyses Date EPA 6010 01/12/95 01/16/95 01/17/95 EPA 6010 01/12/95 01/16/95 01/17/95	Method Extract Date Prep Date Analyses Date Result EPA 6010 01/12/95 01/16/95 01/17/95 ND EPA 6010 01/12/95 01/16/95 01/17/95 ND	Method Extract Date Prep Date Analyses Date Result Units EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L	Method Extract Date Prep Date Analyses Date Result Units Qual. EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L	Method Extract Date Prep Date Analyses Date Result Units Qual. Limit EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 2.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.80 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.020 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.080 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.40 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0	Method Extract Date Prep Date Analyses Date Result Units Detection Regulatory Limit Regulatory Level EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 2.0 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.80 100 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.020 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.080 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 0.40 5.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0 EPA 6010 01/12/95 01/16/95 01/17/95 ND MG/L 1.0 1.0



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: SB-31-SS2-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 01/26/95

			Transmissioners (Special Control of Control				Quanterra ID : 7296-009				
Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit			
Arsenic	EPA 6010	01/12/95	01/1/ /05			***************************************		~ 1011 C	Level	Dilution	
Barium	EPA 6010		01/16/95	01/17/95	DM	MG/L		2.0	5.0	4	
Cadmium		01/12/95	01/16/95	01/17/95	סא	MG/L		0.80		•	
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	DM	MG/L			100	4	
	EPA 6010	01/12/95	01/16/95	01/17/95				0.020	1.0	4	
Lead	EPA 6010	01/12/95			סא	MG/L		0.080	5.0	4	
Selenium	EPA 6010		01/16/95	01/17/95	ND	MG/L		0.40	5.0	4	
Silver		01/12/95	01/16/95	01/17/95	ND	MG/L		. 1 0		34	
	EPA 6010	01/12/95	01/16/95	01/17/95	מא			1.0	1.0	4	
				, , , ,	NU	MG/L		0.040	5.0	4	



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: \$5-32-\$52-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 01/26/95

					The second secon	The state of the s	ARMINISTER STATE OF THE STATE O		
Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Detection Qual. Limit	Regulator Level	y Dilution
Arsenic	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L	2.0	5.0	
Barium	EPA 6010	01/12/95	01/16/95	01/17/95	ОМ	MG/L	0.80	100	4
Cadmium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L	0.020	1.0	4
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L	0.080	5.0	4
Lead	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L	0.40	5.0	4
Selenium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L	1.0	1.0	4
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L	0.040	5.0	4
								2.0	4



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 01/26/95

Quanterra ID : EXTBLK56439-1

ž.				The second secon						In : EXIST	K56439-1
etuspine pp >11	Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory	
The State of State of	Arsenic	EPA 6010	01/12/95	C4 /4/	***************************************					Level	Dilution
,	Barium	EPA 6010		01/16/95	01/17/95	ND	MG/L		2.0	5.0	
7.	Cadmium	•	01/12/95	01/16/95	01/17/95	ND	MG/L				4
Contractor of the contractor o		EPA 6010	01/12/95	01/16/95	01/17/95				0.80	100	4
\$	Chromium	EPA 6010	01/12/95			DM	MG/L		0.020	1.0	4
	Lead	EPA 6010		01/16/95	01/17/95	ND	MG/L -		0.080	5.0	
	Selenium		01/12/95	01/16/95	01/17/95	ND	MG/L		0.70		4
	Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND			0.40	5.0	4
	of (ver	EPA 6010	01/12/95	01/16/95		NU	MG/L		1.0	1.0	4
				0.7.10793	01/17/95	ND	MG/L		0.040	5.0	4
											-



Project: 135.08

Category : TCLP ICAP Matrix : Solid

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 01/26/95

Quanterra ID : EXTBLK56440-1

								EXIBERS6440-1			
Analyte ————————————————————————————————————	Method	TCLP Extract Date	Prep Date	Analyses Date		Units	Qual.	Detection Limit		Dilution	
Arsenic	EPA 6010	01/12/95	01/16/95			***************************************		***************************************		Ditution	
Barium	EPA 6010			01/17/95	ND	MG/L		2.0	5.0	4	
Cadmium	•	01/12/95	01/16/95	01/17/95	מא	MG/L		0.80			
Chromium	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L			100	4	
Citt On Lun	EPA 6010	01/12/95	01/16/95					0.020	1.0	4	
Lead	EPA 6010	01/12/95		01/17/95	DM	MG/L .		0.080	5.0	4	
Selenium			01/16/95	01/17/95	סא	MG/L		0.40	5.0		
Silver	EPA 6010	01/12/95	01/16/95	01/17/95	ND	MG/L				4	
	EPA 6010	01/12/95	01/16/95	01/17/95				1.0	1.0	4	
			,	01/11/93	DN	MG/L		0.040	5.0	4	



Project: 135.08

Category : TCLP ICAP Matrix : Water

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 01/26/95

Quanterra ID : QCBLK56723-1

									4CDCK30123-1			
Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit		Dilution		
Arsenic	EPA 6010	NA	01/1/105	_			-			511311011		
Barium			01/16/95	01/17/95	ND	MG/L		0.50	5.0	4		
Chalm to	EPA 6010	NA	01/16/95	01/17/95	ND	MG/L				1		
Cadmium	EPA 6010	NA	01/16/95	04.447		nd/ C		0.20	100	1		
Chromium	EPA 6010		01/10/93	01/17/95	ND	MG/L		0.005	1.0	1		
Lead	CPA GUIU	NA	01/16/95	01/17/95	ND	MG/L		0.020		'		
	EPA 6010	NA	01/16/95	01/17/95				0.020	5.0	1		
Selenium	EPA 6010	NA			ND	MG/L		0.10	5.0	1		
Silver		na.	01/16/95	01/17/95	ND	MG/L		0.25	1.0			
	EPA 6010	NA	01/16/95	01/17/95				4.25	1.0	1		
			, -2	01/11/93	ND	MG/L		0.010	5.0	1		



Project: 135.08

Category : TCLP ICAP Matrix : Water

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 01/26/95

Quanterra ID : QCLCS56723-1

							4 4466930153-1			
Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Re	gulatory Level	, Dilution
Arsenic	EPA 6010	NA	01/16/95	04.47		***************************************		***************************************		o reaction
Barium	EPA 6010		01710773	01/17/95	104	%REC				1
Cadmium	CPA BUIU	NA	01/16/95	01/17/95	96	%REC				
	EPA 6010	NA	01/16/95	01/17/95						1
Chromium	EPA 6010	NA	,		99	%REC				1
Lead		NA	01/16/95	01/17/95	101	%REC				·
	EPA 6010	NA	01/16/95	01/17/95	101	****				1
Selenium	EPA 6010	NA	01/1/05		101	%REC				1
Silver			01/16/95	01/17/95	101	%REC				•
	EPA 6010	NA	01/16/95	01/17/95	64	%REC				1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: S8-11-SS2-4-6

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 02/01/95

			The second secon	-					10 : 7290-	001
American de la companya della companya della companya de la companya de la companya della compan		TCLP						***************************************	*******************************	-
Analyte	Method	Extract Date	Prep	Analyses						
		Date	Date	Date	Result	Unite	D 1	etection	Regulatory	
Mercury		***************************************				onits	Qual.	_imit		Dilution
,	EPA 7470	01/12/94	01/27/95	04.00		***************************************		-	****	
			41/41/73	01/27/95	ND	MG/L	0.	.0002	0.20	
									0.20	7



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: SB-13-SS3-8-10

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 02/01/95

								3 10 : 1296	-002
		TCLP			TOTAL STATE OF THE				
Analyte	Method	Extract Date	Ргер	Analyses			D	_	
			Date	Date	Result	Units	Detection Qual. Limit	Regulatory Level	
Mercury	EPA 7470	01/12/94						revet	Dilution
		01/12/94	01/27/95	01/27/95	סא	MG/L	0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: SB-14-SS1-0-2

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 02/01/95

Quanterra in . 7204-007

				-					10 : 1290-	·003
A		TCLP					-			-
Analyte	Method	Extract Date	Prep	Analyses						
describing of the state of the			Date	Date	Result	Units	Qual.	Detection Limit	Regulatory	
Mercury	EPA 7470	04.40						Cinii	Level	Dilution
	C: A 1410	01/12/94	01/27/95	01/27/95	ND	MG/L		_		
					110	MG/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: SB-15-SS1-2-4

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 02/01/95

									10 . 1530.	004
		TCLP				-				***************************************
Analyte	Method	Extract Date	Prep Date	Analyses				Detection	0	
Mercury				Date	Result	Units	Qual.	Limit	Regulatory Level	Dilution
•	EPA 7470	01/12/94	01/27/95	01/27/95	ND	WC //	Walle to the second second second second			***************************************
					nU	MG/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: SB-22-SS2-6-7

Sample Date : 11/02/94 Receipt Date : 11/04/94 Report Date : 02/01/95

			The second control of the second control of	-					1730.	~005
		TCLP				The state of the s			-	-
Analyte	Method	Extract Date	Prep	Analyses						
		vate	Date		Result	Units	Qual.	Detection	Regulatory	,
Mercury	EPA 7470			T			waat.	Limit	Level	Dilution
	CFX 7470	01/12/94	01/27/95	01/27/95	ND	MG/L			-	
					110	MU/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: S8-17-SS1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 02/01/95

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A		TCLP				-			The state of the s	-
Analyte	Method	Extract	Prep	Analyses						
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Mercury	ED4 7/70				-		Qual.	Limit		Dilution
	EPA 7470	01/12/94	01/27/95	01/27/95	110		**********		-	-
				- 1, 21/ 73	ND	MG/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: S8-17-SS3-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 02/01/95

		TCLP				************			***************************************	
Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: \$8-28-\$\$1-2-4

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 02/01/95

Quanterra In . 7204-000

			The state of the s					additt GLLS	10:7296-	-008
Analyte	Method	TCLP Extract Date	Prep Date	Analyses		-		Danasi		
Mercury	EPA 7470	04.447	Na r. C.	Date	Result	Units	Qual.	Limit	Regulatory Level	Dilution
	a. n. 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: SB-31-SS2-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 02/01/95

				-				andittel 19	10: 7296-	-009
		TCLP				***************************************			-	***************************************
Analyte	Method	Extract	Prep	Analyses						
	ne thog	Date	Date		Result	Units		Detection	Regulatory	
Mercury						onits	Qual.	Limit		Dilution
•	EPA 7470	01/12/94	01/27/95	01/27/05		***************************************	***************************************		-	
				01/27/95	ND	MG/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Solid

Client ID: SS-32-SS2-6-8

Sample Date : 11/03/94 Receipt Date : 11/04/94 Report Date : 02/01/95

				-					10: 1290-	.010
Analyte		TCLP Extract						THE RESERVE OF THE PERSON OF T		
	Method	Date	Prep Date	Analyses Date	Result	Unita		Detection	Regulatory	
Mercury	EPA 7470	01/10	***************************************			onits	Qual.	Limit	Level	Dilution
	4.7.7470	01/12/94	01/27/95	01/27/95	DM	MG/L		0.0002	0.20	1

Environmental Services

Project: 135.08

Category : TCLP Mercury Matrix : Soil

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 02/01/95

Quanterra ID : EXTBLK56440-1

									THE PROPERTY OF	K20440-1
		TCLP								
Analyte	Method	Extract Date	Prep	Analyses				Detection	Regulatory	
			Date	Date	Result	Units	Qual.	Limit		Dilution
Mercury	EPA 7470	04 (45		THE RESERVE THE PROPERTY OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED				***************************************		
	CFR 7470	01/12/94	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Soil

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 02/01/95

Quanterra ID : EXTBLK56430-1

										V3047A-1
		TCLP					***************************************			
Analyte	Method	Extract Date	Prep	Analyses				D=====		
		Date	Date	Date	Result	Units	Qual.	Limit	Regulatory Level	Dilution
Mercury	EPA 7470	01/12/94	A							Ditution
		01/12/94	01/27/95	01/27/95	סא	MG/L		0.0002	0.20	1
										-

Quanterra Environmental Services

Project: 135.08

Category : TCLP Mercury Matrix : Soil

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 02/01/95

Quanterra ID : QCBLK57871-1

		TCLP				**************************************	-		The second secon	
Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	NA	01/27/95	01/27/95	ND	MG/L		0.0002	0.20	1



Project: 135.08

Category : TCLP Mercury Matrix : Soil

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 02/01/95

								Quanterra ID :	QCLCS57871-1	
Analyte	Method	TCLP Extract Date	Prep Date	Analyses Date	Result	Units		Detection Requi		_
Mercury	EPA 7470	NA	01/27/95	01/27/95	110	*REC	wuat.	Limit Lev	vel Dilution	_

APPENDIX E LABORATORY REPORTS FOR ORGANICS ANALYSES



Quanterra Incorporated 13715 Rider Trail North Earth City, Missouri 63045

314 298-8566 Telephone 314 298-8757 Fax

RECEIVED

FEB 0 6 1995

CERTIFICATE OF ANALYSIS

ES-ST. LOUIS

Engineering Science 400 Woods Mill Road Suite 300 Chesterfield, MO 63017

February 2, 1995

Attention: Mr. Lee Gorday

Project number

135.08

Date Received by Lab

January 4, 1995

Number of Samples

Six (6)

Sample Type

Solid

Subcontract Number

726589-S-001

I. Introduction

On January 4, 1995, six (6) sollid samples were received by Quanterra, St. Louis from Engineering Science analyses. The results of these analyses, along with supporting quality control data and custody documents, are included in the attached report. Upon receipt at the laboratory, the samples were given the following laboratory ID numbers to correspond with its

CLIENT ID	C4 ¥
BG-ASH-1	St. Louis ID
BG-ASH-2	7254-001
BG-ASH-3	7254-002
HA1-3-4	7254-003
HA2-3-4	7254-004
HA3-3-4	7254-005
1177-3-4	7254-006



Engineering Science February 2, 1995 Project Number 135.08 page 2

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information, analytical results, and the appropriate detection limits.

The analysis requested included:

VOA by EPA method 8240. Gross Alpha/Beta by EPA

method 900.0. BNA by EPA 8270.

III. Quality Control

The Quality Assurance/Quality Control (QA/QC) information supporting this analysis can be found immediately following the analytical data. These data are used to assess the laboratory's precision and accuracy during the analytical procedure.

IV. Comments

Samples arrived in St. Louis at 8° C which is not within the recommended 4° C \pm 2° C.

Client chain of custody requested PAH by 8310. Laboratory and client agreed to run BNA analysis by method 8270.

There was no comments or non-conformances associated with these analyses.



Engineering Science February 2, 1995 Project Number 135.08 page 3

I certify that this Certificate of Analysis is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Reviewed and approved:

Project Manager

e:\\sqrml01\wadeprice\$\abbydave\7254pes.coa

Quanterra January 09, 1995 02:13 pm Account: 10031 Project: 135.08 Engineering Science, Inc. QAS No. 783 Rev. 0 Project Manager: W. Price Master Sample Login: 7254 Draft: Sample Header Template: Semple No. Client 1D C-Metrix Date: Collected Comments Received Due Shipper Rad Category Rad Sample No. # Container Type Analysis Class Preservative Anal. Due Date Hold Date Site Data: (Container Numbers: % Filled) 7254-001 BQ-ASH-1 04-JAN-95 14:30 04-JAN-95 16:00 03-FEB-95 CLIENT R3406-006 2 GM - Glass Jar-250ML ABT/9310/Q4 COLD 01-FEB-95 03-JUL-95 S4J (122928:100 122929;99) RAD/SCREEN/Q4 COLD 01-FEB-95 03-JUL-95 S4J (122928:100) 7254-002 BG-ASH-2 Solid 04-JAN-95 14:40 04-JAN-95 16:00 03-FEB-95 CLIENT R3406-005 - Glass Jar-250ML ABT/9310/04 COLD 01-FEB-95 RAD/SCREEN/Q4 03-JUL-95 \$4J (122930:100 122931:99) COLD 01-FEB-95 03-JUL-95 S4J (122930:100) 7254 - 003 Solid 04-JAN-95 14:50 04-JAN-95 16:00 03-FEB-95 CLIENT 2 GM - Glass Jar-250ML ABT/9310/94 01-FEB-95 03-JUL-95 \$4J (122932:100 122933:99) RAD/SCREEN/Q4 COLD 01-FEB-95 03-JUL-95 S4J (122932:100) 7254-004 HA1-3-4 04-JAN-95-15:15-04-JAN-95:16:00-03-FEB-95 CLIENT R3406-003 CN - Glass Jar-250ML BNA/8270/Q4 Q1-FEB-95 18-JAN-95 \$4J PH/17/04 (122935:99) COLD 01-FEB-95 03-JUL-95 \$4J (122935:99) RAD/SCREEN/Q4 COLD 01-FEB-95 03-JUL-95 S4J VOA/8240/Q4 (122935:99) COLD 01-FEB-95 18-JAN-95 109M (122934:100) 7254-005 HA2-3-4 04-JAN-95 15:25 04-JAN-95 16:00 03-FEB-95 CLIENT R3406-002 GN - Glass Jar-250ML BNA/8270/04 COLD 01-FEB-95 18-JAN-95 \$4J (122937:99) PM/IT/Q4 COLD 01-FEB-95 03-JUL-95 S4J (122937:99) RAD/SCREEN/Q4 S COLD 01-FEB-95 03-JUL-95 S4J (122937:99) VOA/8240/04 COLD 01-FEB-95 18-JAN-95 109M (122936:100) 7254 - 006 A-E-EAH 04-JAN-95 15:40 04-JAN-95 16:00 03-FEB-95 CLIENT GN - Glass Jer-250HL BNA/8270/Q4 COLD 01-FEB-95 18-JAN-95 S4J (122939:99) PM/11/04 COLD 01-FEB-95 03-JUL-95 S4J RAD/SCREEN/Q4 (122939:99) COLD 01-FEB-95 03-JUL-95 S4J VOA/8240/04 (122939:99) COLD 01-FEB-95 18-JAN-95 109M (122938:100)

^{3* =} Sample has not been rad screened.

Temp 8°C Cun#2773

Parsons ENGINEERING-SCIENCE

ACC 425 WOODS MILL ROAD SOUTH, SUITE 150 77

Chain-of Custody Record

CHESTERFIELD, MISSOURI 63017 314) 576-7330 FAX (314) 576-2702 (314) 576-7330

No. 02401

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Tem? 8°C Cun#2773

Parsons ENGINEERING-SCIENCE
400-425 WOODS MILL ROAD SOUTH, SUITE-450-330
CHESTERFIELD, MISSOURI 63017
(314) 576-7330 FAX (314) 576-2702

Chain-of Custody Record

No. 02401

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Environmental C.U.R. and C.C.C. COPIED TO: BW & WP DATE: 1-4-95 Work Order No.: 7254 Condition Upon Receipt Variance Report TIME: /3:45 BY: 2m St. Louis Laboratory Client: Date: 1-8-95 Project No: Initiated by: Qual Analysis Requested: Refer to RFA/COC RFA/COC Numbers: 0 240 (Client Sample Numbers Affected: Entire Login Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA." "Not Applicable". NA Not enough sample received for proper analysis. Custody tape disturbed/broken/missing. Received approximately: NA Sample splits performed by lab. Sample received broken/leaking. NA Volatile sample received with approximately Sample received without proper preservative. _____ mm headspace. ☐ Cooler temperature not within 4°C ± 2°C Sample ID on container does not match sample ID Record temperature: 8°C on paperwork. Explain: □ pH other: Sample received in improper container. All coolers on airbill not received with shipment. Sample received without proper paperwork. Explain: 13. Other (explain below): Shipping containers not rad surveyed. Paperwork received without sample. See notes No sample ID on sample container. Notes: HA2-3-4; Time Collected Does not match
C.O.C. 15:25 Containers 13:25

Corrective Action:

Client's Name:

Informed verbally on:

Informed in writing on:

Sample(s) processed "as is". Comments:

Sample(s) on hold until:

Sample Control Supervisor Review: (or designate)

Project Management Review:

Date:

Date:

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE



Project: 135.08

Category: Volatiles Method: EPA 8240 Matrix: Solid

Client ID: HA1-3-4

PA 8240

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/27/95

						40011	terra iv :	7254-004
Analyte Chloromethane	CAS Numbe	Blank Sample r Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Bromomethane	74-87-3	QCBLK56534-1	01/12/95				E	DICUCTOR
Vinyl Chloride	74-83-9	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1
Chloroethane	75-01-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1
Methylene Chloride	75-00-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	;
Acetone	75-09-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1
Carbon Disulfide	67-64-1	QC8LK56534-1	01/12/95	01/12/95	8 UG/KG	В	ă	<u>'</u>
1,1-Dichloroethene	75-15-0	QCBLK56534-1		01/12/95	36 UG/KG	BJ	150	,
1,1-Dichloroethane	75-35-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
trans	75-34-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	i 1
trans-1,2-Dichloroethene Chloroform	156-60-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	i 4
1 2-Diable-	67-66-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
1,2-Dichloroethane	107-06-2	QC8LK56534-1	01/12/95	01/12/95	ND UG/KG		8	
2-Butanone	78-93-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	!
1,1,1-Trichloroethane	71-55-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		150	1
Carbon Tetrachloride	56-23-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG			1
Vinyl Acetate	108-05-4	OCEL KE (EZ/ +	01/12/95	01/12/95	ND UG/KG		8	1
Bromodichloromethane	75-27-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		_8	1
1,2-Dichloropropane	78-87-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		76	1
CIS-1,3-Dichloropropens	10061-01-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
irichloroethene	79-01-6		01/12/95	01/12/95	ND UG/KG		8	1
Dibromochloromethane	124-48-1	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
1,1,2-Trichloroethane	79-00-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
Benzene	71-43-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
trans-1,3-Dichloropropene	10061-02-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
2-Unloroethyl vinvl ether	110-75-8	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
BLOWOLOLW		QCBLK56534-1	01/12/95	01/12/95	, -, -,		8	1
4-Methyl-2-Pentanone	75-25-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1
2-Hexanone	108-10-1	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
Tetrachloroethene	591-78-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		76	1
1,1,2,2-Tetrachloroethane	127-18-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		76	1
Toluene	79-34-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
Chlorobenzene	108-88-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
EthylBenzene	108-90-7	QCBLK56534-1	01/12/95			j	8	1
Styrene	100-41-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	i
(ylene (total)	100-42-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	i
foluene-d8 (SURR)	1330-20-7	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	į
Como fluorohamana	2037-26-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	i
Promofluorobenzene (SURR)	460-00-4	QCBLK56534-1		01/12/95	114 %REC		•	,
,2-Dichloroethane-d4 (SURR)	17070-07-0	QCBLK56534-1	01/12/95	01/12/95	88 %REC			1
	•		01/12/95	01/12/95	97 %REC			1
								1



Project: 135.08

Category: Volatiles Method: EPA 8240 Matrix: Solid

Client ID: HA2-3-4

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/27/95

					Quanterra ID : 7254-00				
Analyte	CAS Number	Blank Sample Name	Prep. Date	· · · · · · · · · · · · · · · · · · ·			Detection		
Chloromethane	7/ 07 7	T-1	Date	Date	Result Unit	Qual.		Dilution	
3romomethane	74-87-3	QCBLK56534-1	01/12/95	04.440			C THIT C	DITUTION	
/inyl Chloride	74-83-9	QC8LK56534-1	01/12/95		ND UG/KG		15		
hloroethane	75-01-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG			1	
lethylene Chloride	75-00-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1	
cetone	75-09-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1	
arbon Disulfide	67-64-1	QCBLK56534-1	01/12/95	01/12/95	9 UG/KG		15	1	
1.Di-bi	75-15-0	QCBLK56534-1	01/12/95	01/12/95	. 00/10	В	7	1	
,1-Dichloroethene	75-35-4	0001100554-1	01/12/95	01/12/95	- 00/1/0	BJ	150	1	
,1-Dichloroethane	75-34-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		7	i	
rans-1,2-Dichloroethene		QC8LK56534-1	01/12/95		ND UG/KG		7	1	
ILOTOTOPM	156-60-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		7		
,2-Dichloroethane	67-66-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		, ,	i	
Butanone	107-06-2	QCBLK56534-1	01/12/93	01/12/95	ND UG/KG		, , , , , , , , , , , , , , , , , , ,	1	
1,1-Trichloroethane	78-93-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG			7	
rbon Tetrachloride	71-55-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		7	1	
nyl Acetate	56-23-5	QCBLK56534-1	01/12/95	01/12/95	- GG/ KG		150	1	
my Acetate	4 **	00014545	01/12/95	01/12/95	- 50/10		7	1	
omodichloromethane		QCBLK56534-1	01/12/95	01/12/95	- GG/KG		7	1	
2-Dichloropropane	77.0	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		74	i	
S-1.3-Dichloroprope		QCBLK56534 - 1	01/12/95		ND UG/KG		7	;	
ICHLOCOethene	10061-01-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		7	.	
bromochloromethana	79-01-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		7		
1,2-Trichloroethane	124-48-1	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		7	1	
nzene	/9-00-5	QCBLK56534-1		01/12/95	ND UG/KG		•	1	
ans-1,3-Dichloropropene	/1-43-2	CBLK56534-1	01/12/95	01/12/95	ND UG/KG		7	1	
hlanathuitoropropene	10061-02-6	CBLK56534-1	01/12/95	01/12/95	ND UG/KG		7	1	
hloroethyl vinyl ether	***	CBLK56534-1	01/12/95	01/12/95			7	1	
omororm	70	CDL K50554-1	01/12/95	01/12/95			7	1	
ethyl-2-Pentanone		ICBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1	
exanone	E 0.4 700 .	ICBLK56534-1	01/12/95	01/12/95	ND UG/KG		7	i	
rachloroethene	437	CBLK56534 - 1	01/12/95		ND UG/KG		74	1	
,2,2-Tetrachloroethane	127-18-4 Q	CBLK56534-1	01/12/95	01/12/95	ND UG/KG		74	<u>'</u>	
uene	79-34-5 Q	CBLK56534-1	01/12/95	01/12/95	ND UG/KG		7	1	
probenzene	108-88-3 Q	CBLK56534-1		01/12/95	ND UG/KG		7	1	
/l Benzene	108-90-7 g	CBLK56534-1	01/12/95	01/12/95	3 UG/KG J		· -	1	
ene	100-41-4 g	CBLK56534 - 1	01/12/95	01/12/95	ND UG/KG		7	1	
ene	100-42-5	CBLK56534-1	01/12/95	01/12/95			7	1	
ene (total)		-0-K30334-1	01/12/95	01/12/95			7	1	
iene-d8 (SURR)		BLK56534-1	01/12/95	01/12/95	- 04/24		7	1	
ofluorobenzene (SURR)		BLK56534-1	01/12/95	01/12/95	ND UG/KG		7	i	
Dichloroethane-d4 (SURR)		BLK56534-1	01/12/95		115 %REC			1	
- COURT	17070-07-0 QC	BLK56534-1	01/12/95	01/12/95	89 %REC				
		- · ·	21/15/73	01/12/95	97 %REC			1	



Project: 135.08

Category: Volatiles Method: EPA 8240 Matrix: Solid

Client ID: HA3-3-4

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/27/95

*				****		wuant	erra ID :	7254-006
Analyte	CAS Number	8lank Sample Name	Prep. Date	Analyses Date	Result Unit	A	Detection	
Chloromethane	74-87-3	OCDI VE (EZ.			wesatt outt	qua(.	Limit	Dilution
Bromomethane	74-83-9	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG	***************************************	*****	
Vinyl Chloride	75-01-4	QCBLK56534-1	01/12/95	01/12/95	, .,,		15	1
Chloroethane	75-00-3	QC8LK56534-1	01/12/95	01/12/95	, 1612		15	1
Methylene Chloride	75-09-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1
Acetone		QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	1
Carbon Disulfide	67-64-1	QCBLK56534-1	01/12/95		8 UG/KG	В	8	i
1,1-Dichloroethene	75-15-0	QC8LK56534-1	01/12/95	01/12/95	21 UG/KG	8.1	150	•
1,1-Dichloroethane	75-35-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	•
trans-1,2-Dichloroethene	75-34-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
Chloroform	156-60-5	QCBLK56534-1	01/12/93	01/12/95	ND UG/KG		8	
1,2-Dichloroethane	67-66-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG			1
2-Butanone	107-06-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
1 1 1-7-1-1	78-93-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
1,1,1-Trichloroethane	71-55-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
Carbon Tetrachloride	56-23-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		150	1
Vinyl Acetate	108-05-4	000145457	01/12/95	01/12/95			8	1
Bromodichloromethane	75-27-4	QCBLK56534-1	01/12/95	01/12/95			8	1
1,2-Dichloropropane	78-87-5	QCBLK56534-1	01/12/95	01/12/95	- 00/10		75	1
Cis-1,3-Dichloropropens		QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
11 ICH LOroethene	79-01-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
Dibromochloromethane	4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	i
1,1,2-Trichloroethane	124-48-1	QCBLK56534-1	01/12/95		ND UG/KG		8	1
Benzene	79-00-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		. 8	1
trans-1,3-Dichloropropene	(1-43-2	QC8LK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
2-Chloroethyl vinyl ether	10061-02-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	<u>'</u>
Bromoform	110-75-8	QCBLK56534-1		01/12/95	ND UG/KG		8	; •
4-Methyl-2-Pentanone	75-25-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		15	
2-Hexanone	108-10-1	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	i
Tetrachloroethene	591-78-6	QC8LK56534-1	01/12/95	01/12/95	3 UG/KG .	,		1
1 1 2 3 res		CBLK56534-1	01/12/95	01/12/95	ND UG/KG	•	75 	1
1,1,2,2-Tetrachloroethane Toluene		CBLK56534-1	01/12/95	01/12/95	ND UG/KG		75	1
Chinash	100 00 -	CBLK56534-1	01/12/95	01/12/95	4		8	1
Chlorobenzene	400		01/12/95	01/12/95	•		8	1
EthylBenzene	100 /4 /	CBLK56534-1	01/12/95	01/12/95	- 00,70		8	1
Styrene		ICBLK56534-1	01/12/95	01/12/95			8	1
Xylene (total)	100-42-5	CBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
Toluene-d8 (SURR)	1330-20-7	CBLK56534-1	01/12/95	01/12/95	ND UG/KG		8	1
Bromofluorobenzene (Supp)	2037-26-5	CBLK56534-1	01/12/95		ND UG/KG		8	;
1,2-Dichloroethane-d4 (SURR)	460-00-4 Q	CBLK56534-1	01/12/95	01/12/95	113 %REC		-	1
(20KK)	17070-07-0	CBLK56534-1	01/12/95	01/12/95	90 %REC			1
		, ,	01/16/93	01/12/95	98 %REC			1
								1



Project: 135.08

Category: Volatiles Method: EPA 8240 Matrix: Solid

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 01/27/95

Quanterra ID : QCRIKS653/-1

4							wuan'	terra ID :	QCBLK56534-1
	Analyte Chloromethane	CAS Numbe	Blank Sample r Name	Prep. Date	Analyses Date	Pagette		Detection	
	chromethane	74-87-3	DOD! VEVE			Result Unit	Qual.	Limit	Dilution
į.	Bromomethane	74-83-9	QCBLK56534-1	01/12/95	01/12/95	***************************************			
	Vinyl Chloride	75-01-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		10	4
	Chloroethane		QC8LK56534-1	01/12/95		ND UG/KG		10	
	Methylene Chloride	75-00-3	QC8LK56534-1	01/12/95	01/12/95	ND UG/KG		10	
	Acetone	75-09-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		10	1
	Carbon Disulfide	67-64-1	QC8LK56534-1	01/12/95	01/12/95	6 UG/KG		5	1
	1,1-Dichloroethene	75-15-0	QCBLK56534-1	01/12/95	01/12/95	23 UG/KG			1
;	1,1-Dichloroethane	75-35-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG	J	100	1
	trans-1,2-Dichloroethene	75-34-3	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	1
	Chloroform	156-60-5	QCBLK56534-1	01/12/95	01/12/95	30/10		5	1
	1.2-0:	67-66-3		01/12/95	01/12/95	30,70		5	1
	1,2-Dichloroethane	107-06-2	QC8LK56534-1	01/12/95	01/12/95			5	1
	2-Butanone	78-93-3	QCBLK56534-1	01/12/95	01/12/95	- 00/100		5	1
	1,1,1-Trichloroethane	71-55-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	i
	Carbon Tetrachloride	56-23-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		100	1
	Vinyl Acetate		QCBLK56534-1	01/12/95	01/12/93	ND UG/KG		5	,
	Bromodichloromethane	108-05-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		Ę	1
	1,4-Dichloropropago	75-27-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		50	1
	cis-1,3-Dichloropropene	78-87-5	QCBLK56534-1	01/12/93	01/12/95	ND UG/KG		5	1
	Trichloroethene	10061-01-5	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		-	1
	Dibromochloromethane	79-01-6	QC8LK56534-1	01/12/95	01/12/95	ND UG/KG		5	1
	1 1 2-Trick!	124-48-1	QCBLK56534-1	01/12/95	01/12/95	NO UG/KG		5	1
	1,1,2-Trichloroethane Benzene	79-00-5	QCBLK56534-1	01/12/95	01/12/95	- 00/10		5	1
	trans 1 7 min.	71-43-2	0001 25 (57)	01/12/95	01/12/95	- 54774		5	1
	trans-1,3-Dichloropropene	10061-02-6	QCBLK56534-1	01/12/95	01/12/95			5	1
	- CHILDFOETHYL VINVI athon	110-75-8	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	i
•	or onto loum	75-25-2	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	1
	4-Methyl-2-Pentanone		QCBLK56534-1	01/12/95		ND UG/KG		10	•
-	r nexanone	108-10-1	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	1
1	etrachloroethene	591-78-6	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		50	1
1	1,1,2,2-Tetrachloroethana	127-18-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		50	1
T	oluene	79-34-5	QC8LK56534-1	01/12/95	01/12/95	ND UG/KG		5	1
C	hlorobenzene	108-88-3	QCBLK56534-1		01/12/95	ND UG/KG		-	1
Ε	thylBenzene	108-90-7	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	1
S	tyrene	100-41-4	QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	1
v.	vione the same	100-42-5	QCBLK56534-1	01/12/95	01/12/95	- 47 / 44		5	1
Α.	ylene (total)		0001100034-1	01/12/95	01/12/95			5	1
1 (oluene-d8 (SURR)		QCBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	1
R	romofluorobenzene (SURR)		CBLK56534-1	01/12/95	01/12/95	ND UG/KG		5	i
٦,	,2-Dichloroethane-d4 (SURR)	4 70 00	CBLK56534-1	01/12/95		107 %REC		-	1
	COURT	17070-07-0	CBLK56534-1	01/12/95	01/12/95	105 %REC			
			•	31/12/73	01/12/95	97 %REC			1
									1



Project: 135.08

Category: Volatiles Method: EPA 8240 Matrix: Solid

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 01/27/95

Quanterra ID : QCLCS56534-1

Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit Dilution
1,1-Dichloroethene Trichloroethene Benzene Toluene Chlorobenzene Toluene-d8 (SURR) Bromofluorobenzene (SURR) 1,2-Dichloroethane-d4 (SURR)	75-35-4 79-01-6 71-43-2 108-88-3 108-90-7 2037-26-5 460-00-4 17070-07-0	QCBLK56534-1 QCBLK56534-1 QCBLK56534-1 QCBLK56534-1 QCBLK56534-1 QCBLK56534-1 QCBLK56534-1 QCBLK56534-1	01/12/95 01/12/95 01/12/95 01/12/95 01/12/95 01/12/95 01/12/95 01/12/95	01/12/95 01/12/95 01/12/95 01/12/95 01/12/95 01/12/95 01/12/95 01/12/95	97 %REC 96 %REC 96 %REC 94 %REC 97 %REC 103 %REC 102 %REC 98 %REC		1 1 1 1 1 1 1



Project: 135.08

Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: HA1-3-4

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/26/95

Quanterra ID : 7254-004

	***************************************				Q	uanterra ID : 7254-004
Analyte	CAS Numb	Blank Sample Per Name	Prep Date			Detection
Phenol	100 00 0			pare	Result Unit Qua	al. Limit Dilution
bis(2-Chloroethyl)Ether	108-95-2		01/06/9	5 01/13/95		
2-Chlorophenol	111-44-4	- 400000001 - 1	01/06/9		ND UG/KG	500 1
1,3-Dichlorobenzene	95-57-8	QCBLK56031-1	01/06/9	2.7 (3/)2	ND UG/KG	500
1,4-Dichlorobenzene	541-73-1	QCBLK56031-1	01/06/9	91713773	ND UG/KG	500 1
Benzyl Alcohol	106-46-7	QCBLK56031-1			ND UG/KG	500 1
1.2-Nichland	100-51-6	QCBLK56031-1	01/06/99	- 17 107 73	ND UG/KG	
1,2-Dichlorobenzene	95-50-1	QCBLK56031-1	01/06/95		ND UG/KG	500 1
2-Methylphenol	05	0001 654034 4	01/06/95		ND UG/KG	1000 1
bis(2-Chloroisopropyl)Ether	108-60-1	QCBLK56031-1	01/06/99	01/13/95		500 1
4-methylphenol	106-44-5	QCBLK56031-1	01/06/95	01/13/95		500 1
N-nitroso-di-n-propylamine	621-64-7	QCBLK56031-1	01/06/95	01/13/95		500 ₁
nexachloroethane		QCBLK56031-1	01/06/95		140 UG/KG J	500 1
Nitrobenzene	67-72-1	QCBLK56031-1	01/06/95		ND UG/KG	500 1
Isophorone	98-95-3	QCBLK56031-1	01/06/95	-,,,,,,,,	ND UG/KG	500 1
2-Nitrophenol	78-59-1	QCBLK56031-1		91713773	ND UG/KG	500 1
2,4-Dimethylphenol	88-75-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	***
Benzoic Acid	105-67-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
Belizoic Acid	65-85-0		01/06/95	01/13/95	ND UG/KG	500 1
bis(2-Chloroethoxy)Methane	111-91-1	QCBLK56031-1	01/06/95	01/13/95		500 1
2,4-Dichlorophenol	120-83-2	QCBLK56031-1	01/06/95	01/13/95		2400 1
1,2,4-Trichlorobenzene		QCBLK56031-1	01/06/95	01/13/95	,	500 1
) Naphthalene	120-82-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
4-Chloroaniline	91-20-3	QCBLK56031-1	01/06/95		ND UG/KG	500 1
Hexachlorobutadiene	106-47-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
4-Chloro-3-Methylphenol	87-68-3	QCBLK56031-1		01/13/95	ND UG/KG	
2-Methylas-bet	59-50-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
2-Methylnaphthalene	91-57-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
Hexachlorocyclopentadiene	77-47-4	0001724021	01/06/95	01/13/95	ND UG/KG	1000 1
2,4,6-Trichlorophenol	88-06-2	QCBLK56031-1	01/06/95	01/13/95		500 1
2,4,5-Trichlorophenol	95-95-4	QCBLK56031-1	01/06/95	01/13/95		500 1
2-Chloronaphthaiene	91-58-7	QCBLK56031-1	01/06/95	01/13/95		500 1
4-Nitroaniline		QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
DimethylPhthalate	88-74-4	OCBLKS6031-1	01/06/95		ND UG/KG	500 1
Acenaphthylene	131-11-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400
2,6-Dinitrotoluene	208-96-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
3-Nitroaniline	606-20-2	QCBLK56031-1		01/13/95	ND UG/KG	500 1
Acomple	99-09-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
Acenaphthene	83-32-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
2,4-Dinitrophenol	51-28-5	0001 KE (024 4	01/06/95	01/13/95	ND UG/KG	2400 1
4-Nitrophenol	100-02-7	QC8LK56031-1	01/06/95	01/13/95		500 1
Dibenzofuran		QCBLK56031-1	01/06/95	01/13/95		2400 1
2,4-Dinitrotoluene	132-64-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400 1
Diethylphthalate	121-14-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
4-Chlorophenyl-PhenylEther	84-66-2	QCBLK56031-1	01/06/95	01/13/73	ND UG/KG	500 i
Fluorene	7005-72-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 i
4-Nitroaniline	86-73-7	QC8LK56031-1		01/13/95	ND UG/KG	500 1
4 6-Dipitos 3 uses	100-01-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
4,6-Dinitro-2-Methylphenol	534-52-1	QC8LK56031-1	01/06/95	01/13/95	ND UG/KG	2400 1
n-Nitrosodiphenylamine (1)	86-30-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
4-0/OMODNenvi-Phanul Esha-	101-55-3	CC01 NE (021 - 1	01/06/95	01/13/95	ND UG/KG	2400 1
nexachlorobenzene	118-74-1	QCBLK56031-1	01/06/95	01/13/95	,	500 1
Pentachlorophenol		QCBLK56031-1	01/06/95	01/13/95		500 1
Phenanthrene	87-86-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
Anthracene	85-01-8	QCBLK56031-1	01/06/95	01/13/93	ND UG/KG	2400 1
Di-N-Butylphthalate	120-12-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500
Fluoranthene	84-74-2	QCBLK56031-1		01/13/95	ND UG/KG	500
Pyrene	200-44-0	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	• • •
		QCBLK56031-1	01/06/95	01/13/95	75 UG/KG J	
ButylBenzylPhthalate		QC8LK56031-1	01/06/95	01/13/95	68 UG/KG J	roo '
3,3'-Dichlorobenzidine		9CGL VE (071-1	01/06/95	01/13/95		500 1
benzo(a)Anthracene		QCBLK56031-1	01/06/95	01/13/95		500 1
Chrysene	56-55-3	QCBLK56031-1	01/06/95	01/13/95	,	1000 1
bis(2-Ethylhexyl)Phthalata		QCBLK56031-1	01/06/95		ND UG/KG	500 1
di-N-OctylPhthalate	117-81-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
Benzo(b)Fluoranthene	117-84-0	QCBLK56031-1	01/06/95	01/13/95	100 UG/KG J	500 1
	205-99-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
			01/00/Y)	01/13/95	ND UG/KG	500 1
						,



Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: HA1-3-4

Project: 135.08

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/26/95

			Control of the Contro				1 234-004
Analyte Benzo(k)Fluoranthene	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit Qual	Detection Limit	
Benzo(a)Pyrene Indeno(1,2,3-CD)Pyrene Indeno(1,2,3-CD)Pyrene Dibenz(a,h)Anthracene Benzo(g,h,i)Perylene 2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromophenol Terphenyl-d14	321-60-8 118-79-6	QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1	01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95	01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95	ND UG/KG ND UG/KG ND UG/KG ND UG/KG ND UG/KG 68 %REC 68 %REC 60 %REC 67 %REC 69 %REC	500 500 500 500 500 500	Dilution 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1



Project: 135.08

Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: HA2-3-4

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/26/95

-5	1						quanterra ID :	7254-005
	Analyte	CAS Numbe	Blank Sample er Name	Prep			Datasati	
	Phenol		· · · · · · · · · · · · · · · · · · ·	Date	Date	Result Unit Q	Detection	- • •
	his/2-Chlorad ton	108-95-2	QCBLK56031-1			was a control of	lual. Limit	Dilution
	bis(2-Chloroethyl)Ether 2-Chlorophenol	111-44-4	QCBLK56031-1	01/06/9		ND UG/KG	///	
	1 3-Diebles	95-57-8	QCBLK56031-1	01/06/9	5 01/13/95	ND UG/KG	490	1
	1,3-Dichlorobenzene	541-73-1	QCBLK56031-1	01/06/9	5 01/13/95	ND UG/KG	490	1
	1,4-Dichlorobenzene	106-46-7	QCBLK56031-1	01/06/9	5 01/13/95	ND UG/KG	490	1
	Benzyl Alcohol	100-51-6	QCBLK56031-1	01/06/9	01/13/95	ND UG/KG	490	1
	1,2-Dichlorobenzene	95-50-1		01/06/99	01/13/95	ND UG/KG	490	1
	2-Methylphenol	OF 1	QCBLK56031-1	01/06/95	01/13/95		970	1
	bis(2-Chloroisopropyl)Ethe	r 108-60-1	QCBLK56031-1	01/06/99	01/13/95	,	490	1
	4-methylphenol	106-44-5	QCBLK56031-1	01/06/99	01/13/05		490	1
	N-nitroso-di-n-propylamine	621-64-7	QCBLK56031-1	01/06/95	01/13/95		490	1
į	nexachioroethane	67-72-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
- (Nitrobenzene	98-95-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
	Isophorone	78-59-1	QC8LK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
	2-Mitrophenol	88-75-5	QCBLK56031-1	01/06/95		ND UG/KG	490	1
	2,4-Dimethylphenol		QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
-	Benzoic Acid	105-67-9	QCBLK56031-1	01/06/95		ND UG/KG	490	1
1	bis(2-Chloroethoxy)Methane	65-85-0	QCBLK56031-1	01/06/95	4.7.437.73	ND UG/KG	490	i
ŧ	2,4-Dichlorophenal	111-91-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400	1
	1,2,4-Trichlorphenzena	120-83-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	i
,	Naphthalene	120-82-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
	4-Chloroaniline	91-20-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	•
	Hexachlorobutadiene	106-47-8	QCBLK56031-1	01/00/93	01/13/95	ND UG/KG	490	•
,	4-Chloro-3-Methylphenol	87-68-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	970	
	2-Methylnaphthalene	59-50-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
	Heyachlonenthatene	91-57-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG		1
	Hexachlorocyclopentadiene	77-47-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	970	1
-	2,4,6-Trichlorophenol	88-06-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
ş	2,4,5-Trichlorophenol	95-95-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
	2-Chloronaphthalene	91-58-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
,	2-Nitroaniline	88-74-4		01/06/95	01/13/95		490	1
1	DimethylPhthalate	131-11-3	QCBLK56031-1	01/06/95	01/13/95		490	1
	Acenaphthylene	208-96-8	QCBLK56031-1	01/06/95	01/13/95		2400	1
ğ	2,6-Dinitrotoluene	606-20-2	QCBLK56031-1	01/06/95	01/13/95		490	1
	3-Nitroaniline	99-09-2	QCBLK56031-1	01/06/95	01/13/95	7	490	1
,	Acenaphthene	83-32-9	QCELK56031-1	01/06/95	01/13/95		490	1
1	2,4-Dinitrophenol	51-28-5	QCSLK56031-1	01/06/95	01/13/95	ND UG/KG	2400	1
	4-Nitrophenol		QCBLK56031-1	01/06/95	01/13/95	NO UG/KG	490	1
ŝ	Dibenzofuran	100-02-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400	1
	2,4-Dinitrotoluene	132-64-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400	1
	Diethylphthalate	121-14-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	i
ì	4-Chlorophenyl-phanylchan	84-66-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
	Fluorene	7005-72-3	QCBLK56031-1	01/06/95		ND UG/KG	490	1
į	4-Nitroaniline	86-73-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
	4,6-Dinitro-2-Methylphenol	100-01-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
í	(1"MITTOSOCIONENVIAMINA (1)	234-52-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400	1
	4-Bromophenyl-Phenyl Ether	86-30-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400	1
1	Hexachlorobenzene	101-35-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
ł	Pentachlorophenol	118-74-1	QCBLK56031-1		01/13/95	ND UG/KG	490	•
	Phenanthrene	87-86-5	QC8LK56031-1	01/06/95	01/13/95	ND UG/KG	490	•
	Anthracene	ap-01-8	2CBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400	1
	Di-N-Butylphthalate	120-12-7	CBLK56031-1	01/06/95	01/13/95	74 UG/KG J	490	!
ĺ	Fluoranthene	84-74-2	CBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
,	Pyrene	206-44-0	CBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
	Butyl Benzyl Phthalate		C8LK56031-1	01/06/95	01/13/95	140 UG/KG J	490	1
ı	3 37-Diebland		CBLK56031-1	01/06/95	01/13/95	150 UG/KG J	490 490	1
1	3,3'-Dichlorobenzidine	91-94-1	C8LK56031-1	01/06/95	01/13/95	380 UG/KG BJ		1
1	Benzo(a)Anthracene	F	CBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
1	Chrysene		CBI NE Y U.S. 4 4	01/06/95	01/13/95	60 UG/KG J	970 / 20	1
	bis(2-Ethylhexyl)Phthalate	4 4 500	CBLK56031-1	01/06/95	01/13/95	100 UG/KG J	490	1
	Ul'N-OctylPhthalate		CBLK56031-1	01/06/95	01/13/95	130 UG/KG J	490	1
ŧ	Benzo(b)Fluoranthene		CBLK56031-1	01/06/95	01/13/95	ND UG/KG	490	1
		,, , ,	CBLK56031-1	01/06/95	01/13/95	140 UG/KG J		1
					- -	יים פויאנט ט	490	1 .



Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: HA2-3-4

Project: 135.08

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/26/95

		The state of the s					cerra ID ;	/234-005	
Analyte Benzo(k)fluoranthene	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit		-
Benzo(a)Pyrene Indeno(1,2,3-CD)Pyrene Dibenz(a,h)Anthracene Benzo(g,h,i)Perylene 2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-fluorobiphenyl 2,4,6-Tribromophenol Terphenyl-d14	207-08-9 50-32-8 193-39-5 53-70-3 191-24-2 367-12-4 13127-88-3 4165-60-0 321-60-8 118-79-6 1718-51-0	QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1	01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95	01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95	ND UG/K 53 UG/K ND UG/K ND UG/K ND UG/K ND UG/K 56 % % REC 51 % REC 67 % REC 67 % REC 66 % REC	G G J	490 490 490 490 490	Dilution 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	



Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: HA3-3-4

Project: 135.08

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/26/95

	:					Q(Janterra ID : 7254-006
	Analyte		Riank Camel				
	Allatyte	CAS Numb	Blank Sample	Prep	o. Analyses		_
	Phenol		er Name	Date	Date	Result Unit Qua	Detection
	his/2-chi	108-95-2	QCBLK56031-1			kesult Unit Qua	d. Limit Dilution
	bis(2-Chloroethyl)Ether 2-Chlorophenol	111-44-4		01/06/9	01/13/95	ND UG/KG	The same of the sa
	1 3-pi-bi	95-57-8	QCBLK56031-1 QCBLK56031-1	01/06/9	01/13/95	ND UG/KG	500 1
	1,3-Dichlorobenzene	541-73-1	QCBLK56031-1	01/06/9	5 01/13/95	ND UG/KG	500 1
	1,4-Dichlorobenzene	106-46-7	0CB1 KE4034 +	01/06/9	5 01/13/95	,	500 1
	Benzyl Alcohol	100-51-6	QCBLK56031-1	01/06/9	5 01/13/95		500 1
	1,2-Dichlorobenzene	95-50-1	QCBLK56031-1	01/06/9	5 01/13/05		500 1
	2-Methylphenol	A	QCBLK56031-1	01/06/9	5 01/13/95		990 1
	bis(2-Chloroisopropyl)Ether	108-60-1	QCBLK56031-1	01/06/99	5 01/13/95	,	500 1
	* methytphenot	106-44-5	QCBLK56031-1	01/06/9	5 01/13/95		500 ₁
	N-nitroso-di-n-propylamine	621-64-7	QCBLK56031-1	01/06/95		,	500 1
	nexachioroethane	67-72-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
-	Nitrobenzene	98-95-3	QCBLK56031-1	01/06/99	01/13/95	,	500 1
	Isophorone	78-59-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
	2-Nitrophenol	88-75-5	QCBLK56031-1	01/06/95		ND UG/KG	500 1
1	2,4-Dimethylphenol	105-67-9	QCBLK56031-1	01/06/95		ND UG/KG	500 i
- [Benzoic Acid	65-85-0	QCBLK56031-1	01/06/95		ND UG/KG	500 j
-	bis(2-Chloroethoxy)Methane		QCBLK56031-1	01/06/95		ND UG/KG	500 1
	4,4-Dichlorophenol	111-91-1	QCBLK56031-1	01/06/95	937 13773	ND UG/KG	2400 1
	1,2,4-Trichlorobenzena	120-83-2	QCBLK56031-1	01/06/95	21/12/12	ND UG/KG	500 1
7	wapnthalene	120-82-1	QCBLK56031-1	01/06/95		ND UG/KG	500 1
- 1	4-Chloroaniline	91-20-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
į	Hexachlorobutadiana	106-47-8	QCBLK56031-1	01/06/95		ND UG/KG	500 1
	4-Chloro-3-Methylphenal	87-68-3	QCBLK56031-1	01/06/95	01/13/95	350 UG/KG j	990 1
	4-methylnaphthalene	59-50-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500
1	hexach (orocyclopentadions	91-57-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	990 1
i	-, 4, 9 - ifichtorophenot	77-47-4	QCBLX56031-1	01/06/95	01/13/95	ND UG/KG	500 1
į	4,4,5-Trichlorophanol	88-06-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500
	Chloronaphthalene	95-95-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
	2-Nitroaniline	91-58-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
1	DimethylPhthalare	88-74-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
-	Acenaphthylene	131-11-3	QC8LK56031-1	01/06/95	01/13/95	ND UG/KG	2400
ŝ	2,6-Dinitrotoluene	208-96-8	QC8LK56031-1	01/06/95	01/13/95	ND UG/KG	500
	3-Nitroaniline	606-20-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
χ.	Acenaphthene	99-09-2	QCBLK56031-1		01/13/95	ND UG/KG	500
1	2,4-Dinitrophenol	83-32-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400 1
	4-Nitrophenol	51-28-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500
ž	Dibenzofuran	100-02-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400 1
	2,4-Dinitrotoluene	132-64-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
,	Diethylphthalate	121-14-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400 ₁ 500 1
	4-Chlorophonul pt	84-66-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
ĺ	4-Chlorophenyl-PhenylEther Fluorene	7005-72-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
7	4-Nitroaniline	86-73-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
	4.6-Dinitro-3-Market	100-01-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
ł	4,6-Dinitro-2-Methylphenol	534-52-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
distance	n-Nitrosodiphenylamine (1)	86-30-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	2400 1 2400 1
	4-Bromophenyl-Phenyl Ether Hexachlorobenzene	101-55-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
,	Pentachlorophenol	118-74-1	QC8LK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
	Phenanthrene	87-86-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
	Anthracene	85-01-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
	Di-M-Russimber	120-12-7		01/06/95	01/13/95	ND UG/KG	2400 1
	Di-N-Butylphthalate Fluoranthene	84-74-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
	Pyrene		QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	500 1
	Firth Committee		QC8LK56031-1	01/06/95	01/13/95	110 UG/KG J	500 1
	ButylBenzylPhthalate		0C81 K24024 4	01/06/95	01/13/95		500 1
	3,3'-Dichlorobenzidine		QCBLK56031-1	01/06/95	01/13/95	240 UG/KG J	500 1
	Benzo(a)Anthracene		QCBLK56031-1	01/06/95	01/13/95	/	500 1
	Chrysene		OCBLK56031-1	01/06/95	01/13/95	,	990 1
	bis(2-Ethylhexyl)Phthalate	117 04 7	QCBLK56031-1	01/06/95	01/13/95		500 1
•	- IntuctviPhthalasa		QCBLK56031-1	01/06/95	01/13/95		500 1
E	enzo(h) Elvananta	A	CBLK56031-1	01/06/95	01/13/95		500 1
		77-6	CBLK56031-1	01/06/95	01/13/95		500 1
						ND UG/KG	500 1



Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: HA3-3-4

Project: 135.08

Sample Date : 01/04/95 Receipt Date : 01/04/95 Report Date : 01/26/95

					4001	ireita In :	7254-006
Analyte Benzo(k)Fluoranthene	CAS Number		Prep. Date	Analyses Date	Result Unit Qual.	Detection Limit	Dilution
Benzo(a)Pyrene Indeno(1,2,3-CD)Pyrene Dibenz(a,h)Anthracene Benzo(g,h,i)Perylene 2-fluorophenol Phenol-d5 Nitrobenzene-d5 2-fluorobiphenyl 2,4,6-Tribromophenol Terphenyl-d14	207-08-9 50-32-8 193-39-5 53-70-3 191-24-2 367-12-4 13127-88-3 4165-60-0 321-60-8 118-79-6 1718-51-0	QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1	01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95	01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95	ND UG/KG ND UG/KG ND UG/KG ND UG/KG ND UG/KG 73 %REC 73 %REC 74 %REC 74 %REC 87 %REC 81 %REC	500 500 500 500 500	1 1 1 1 1 1 1 1 1



Project: 135.08

Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: NA

Sample Date : NA Receipt Date : NA Report Date : 01/26/95

Quanterra ID : QCBLK56031-1

1			*****	-		Quanterra ID : QCBLK56031-1
Analyte	CAS Num	Blank Sample	Ргер	- Analyses	Okanani kanada manani kanan Manana na sayaka mata na sayaka mata na sayaka mata na sayaka mata na sayaka mata n	
Phenol	ONS HOLD	ber Name	Date		Result Unit Q	Detection
	108-95-	2 QCBLK56031-1	***************************************		weaper Other C	Qual. Limit Dilution
bis(2-Chloroethyl)Ether	111-44-		01/06/9		ND UG/KG	
2-Chlorophenol	95-57-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
1,3-Dichlorobenzene	541-73-1	QCBLK56031-1	01/06/99		ND UG/KG	330 1
1,4-Dichlorobenzene	106-46-7		01/06/99		ND UG/KG	330 1
Benzyl Alcohol	100-51-6		01/06/99	01/13/05	ND UG/KG	330 1
1,2-Dichlorobenzene	95-50-1	QCBLK56031-1	01/06/99	01/13/95	ND UG/KG	330 1
2-Methylphenol	AF (QCBLK56031-1	01/06/95		ND UG/KG	660 1
bis(2-Chloroisopropyl)Ethe	г 108-60-1	QCBLK56031-1	01/06/95		ND UG/KG	330 1
4-Methylphenol	106-44-5		01/06/95		ND UG/KG	330 1
N-nitroso-di-n-propylamine Hexachloroethane	621-64-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
Nitrobenzene	67-72-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
Isophorone	98-95-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
2-Nitrophenol	78-59-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
2,4-Dimethylphenol	88-75-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
Benzoic Acid	105-67-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
bis(2-Chlorostham	65-85-0	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
bis(2-Chloroethoxy)Methane 2,4-Dichlorophenol	111-91-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
1,2,4-Trichlorobenzene	120-83-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	1600 1
Naphthalene	120-82-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 ₁ 330 ₁
4-Chloroaniline	91-20-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
Hexachlorobutadiene	106-47-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1 330 1
4-Chloro-3-Methylphenol	87-68-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
2-Methylnaphthalene	59-50-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	660 1 330 1
Hexach crossel	91-57-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	
Hexachlorocyclopentadiene 2,4,6-Trichlorophenol	77-47-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	660 1 330 1
2,4,5-Trichlorophenol	88-06-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1 330 1
2-Chloronaphthalene	95-95-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
2-Nitroaniline	91-58-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
DimethylPhthalate	88-74-4	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
Acenaphthylene	131-11-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	1600 1
2,6-Dinitrotoluene	208-96-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330
3-Nitroaniline	606-20-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
Acenaphthene	99-09-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
2,4-Dinitrophenol	83-32-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	1600 1
4-Nitrophenol	51-28-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330
Dibenzofuran	100-02-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	1600
2,4-Dinitrotoluene	132-64-9	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	1600 1
Diethylphthalate	121-14-2	QCBLK56031-1	01/06/95 01/06/95	01/13/95	ND UG/KG	330 ₁
4-Chlorophenyl-PhenylEther	84-66-2	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330
Fluorene	7005-72-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
4-Nitroaniline	86-73-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330
4,6-Dinitro-2-Methylphanal	100-01-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
II NITrosodiphenvlamina (1)	534-52-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	1600 1
4 Bromophenyl-Phenyl Ethan	86-30-6	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	1600 1
nexachtorobenzene	101-55-3	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
Pentachlorophenol	118-74-1	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
Phenanthrene	87-86-5	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330
Anthracene	85-01-8	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	1600
U1-N-Butviphthalara	120-12-7	QC8LK56031-1	01/06/95	01/13/95	ND UG/KG	330
rtuoranthene	84-74-2	QCBLK56031-1	01/06/95	01/13/95 01/13/95	ND UG/KG	330 1
Pyrene	206-44-0	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
ButylBenzylPhthalate	129-00-0 85-68-7	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
3,3'-Dichlorobenzidina		QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	330 1
oenzo(a)Anthracene	91-94-1	QCBLK56031-1	01/06/95	01/13/95	110 UG/KG J	330 1
unrysene	56-55-3 218-01-0	QCBLK56031-1	01/06/95	01/13/95	ND UG/KG	660 1
bis(2-Ethylhexyl)Phthalata	218-01-9	QC8LK56031-1	01/06/95	01/13/95	ND UG/KG	330
ui "N'UCTY[Phthalate		QCBLK56031-1		01/13/95	ND UG/KG	330 1
Benzo(b)fluoranthene		QCBLK56031-1	01/06/95	01/13/95	ND UG/KG ND UG/KG	330 1
	CA3 - 33 C	QCBLK56031-1		01/13/95		330 1
					ND UG/KG	330 1



Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: NA

Project: 135.08

Sample Date : NA Receipt Date : NA Report Date : 01/26/95

		****	Quanterra ID : QCBLK56031-1					
Analyte Benzo(k)Fluoranthene	CAS Number 207-08-9		Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
Benzo(a)Pyrene Indeno(1,2,3-CD)Pyrene Dibenz(a,h)Anthracene Benzo(g,h,i)Perylene 2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromophenol Terphenyl-d14	50-32-8 193-39-5 53-70-3 191-24-2 367-12-4 13127-88-3 4165-60-0 321-60-8 118-79-6 1718-51-0	QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1	01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95	01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95	ND UG/KG ND UG/KG ND UG/KG ND UG/KG ND UG/KG 85 %REC 83 %REC 74 %REC 83 %REC 84 %REC		330 330 330 330 330 330	1 1 1 1 1 1 1 1 1



Project: 135.08

Sample Date : NA Receipt Date : NA Report Date : 01/26/95

Quanterra ID : QCSPK56031-1

Category: Semivolatile Method: EPA 8270 Matrix: Solid

Client ID: NA

			CONTRACTOR OF THE PROPERTY OF	With the same of t				
Analyte Phenol	CAS Number		Prep. Date	Analyses Date	Result Unit	Qual.	Detection Limit	Dilution
2-Chlorophenol 1,4-Dichlorobenzene N-nitroso-di-n-propylamine 1,2,4-Trichlorobenzene 4-Chloro-3-Methylphenol Acenaphthene 4-Nitrophenol 2,4-Dinitrotoluene Pentachlorophenol Pyrene 2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromophenol Terphenyl-d14	108-95-2 95-57-8 106-46-7 621-64-7 120-82-1 59-50-7 83-32-9 100-02-7 121-14-2 87-86-5 129-00-0 367-12-4 13127-88-3 4165-60-0 321-60-8 118-79-6	QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1 QCBLK56031-1	01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95 01/06/95	01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95 01/13/95	66 XREC 71 XREC 71 XREC 70 XREC 69 XREC 74 XREC 73 XREC 27 XREC 82 XREC 82 XREC 87 XREC 87 XREC 87 XREC 88 XREC 89 XREC 98 XREC 87 XREC			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1